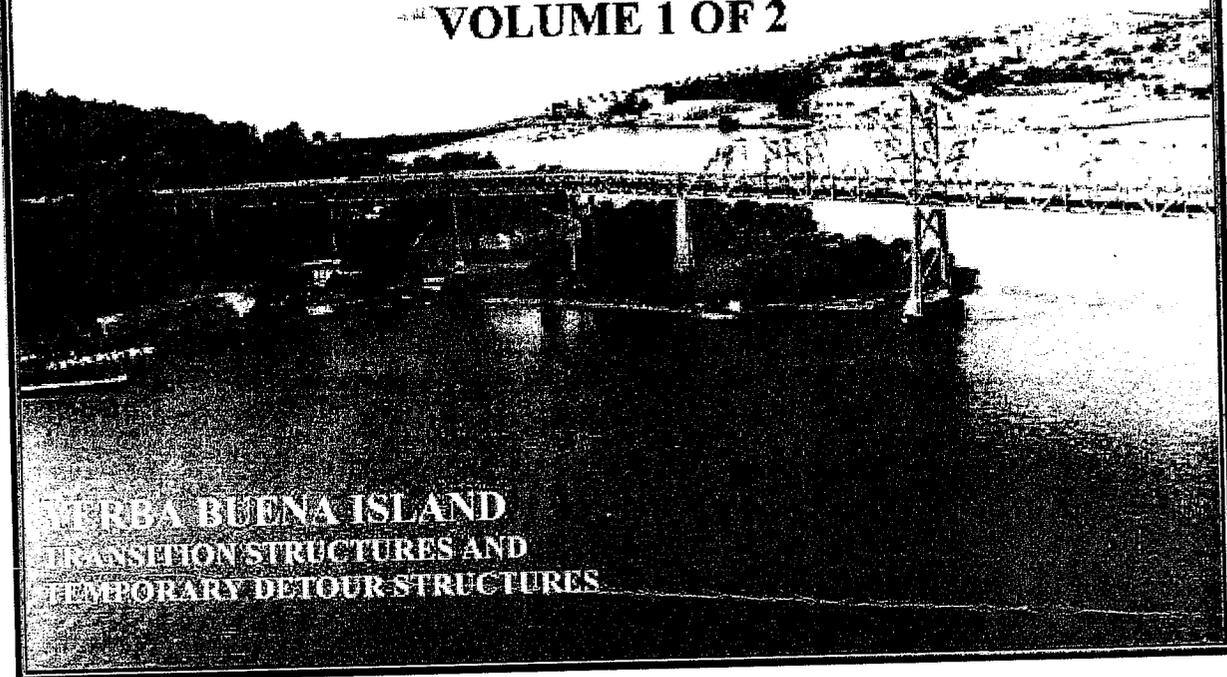


**SITE INVESTIGATION REPORT
SFOBB EAST SPAN SEISMIC SAFETY PROJECT
VOLUME 1 OF 2**



PREPARED FOR:

**CALIFORNIA DEPARTMENT OF TRANSPORTATION
DISTRICT 4
DIVISION OF TOLL BRIDGE PROGRAM
111 GRAND AVENUE
OAKLAND, CALIFORNIA**



PREPARED BY:

**CALIFORNIA DEPARTMENT OF TRANSPORTATION
DISTRICT 4
DIVISION OF TOLL BRIDGE PROGRAM
ENVIRONMENTAL ENGINEERING BRANCH
111 GRAND AVENUE
OAKLAND, CALIFORNIA**



GEOCON

AND

**GEOCON CONSULTANTS, INC.
2356 RESEARCH DRIVE
LIVERMORE, CALIFORNIA**

**CONTRACT 43A0012
TASK ORDER NO. 04-012000-FC**

JUNE 2001

Project No. E8000-06-13
June 29, 2001

California Department of Transportation - District 4
Division of Toll Bridge Program
Environmental Engineering Branch
111 Grand Avenue, 14th Floor
Post Office Box 23660
Oakland, California 94623-0660

Attention: Allen Baradar

Subject: SITE INVESTIGATION REPORT
SFOBB EAST SPAN SEISMIC SAFETY PROJECT
YERBA BUENA ISLAND
CONTRACT NO. 43A0012
TASK ORDER NO. 04-012000-FC

Dear Mr. Baradar:

In accordance with California Department of Transportation Contract No. 43A0012 and Task Order No. 04-012000-FC, Geocon Consultants, Inc. (Geocon) has performed environmental engineering services at the above-referenced project site. The project site consists of the land area of Yerba Buena Island beneath the East Span of the San Francisco-Oakland Bay Bridge on Interstate 80.

The accompanying report summarizes the services performed, including the advancement of soil borings, the collection of soil and groundwater samples, and chemical analyses.

If there are any questions concerning the contents of this report, or if Geocon may be of further service, please contact the undersigned at your convenience.

Sincerely,

GEOCON CONSULTANTS, INC.

Matthew W. Hanko, REA
Senior Project Scientist

Richard W. Day, CEG, CHG
Regional Manager

MWH:RWD:mwh

(5) Addressee

SITE INVESTIGATION REPORT

SAN FRANCISCO-OAKLAND BAY BRIDGE (SFOBB)
INTERSTATE 80
YERBA BUENA ISLAND
SAN FRANCISCO COUNTY, CALIFORNIA

PREPARED FOR:

CALIFORNIA DEPARTMENT OF TRANSPORTATION
DISTRICT 4
DIVISION OF TOLL BRIDGE PROGRAM
111 GRAND AVENUE
OAKLAND, CALIFORNIA

PREPARED BY:

CALIFORNIA DEPARTMENT OF TRANSPORTATION
DISTRICT 4
DIVISION OF TOLL BRIDGE PROGRAM
ENVIRONMENTAL ENGINEERING BRANCH
111 GRAND AVENUE
OAKLAND, CALIFORNIA

AND

GEOCON CONSULTANTS, INC.
5673 WEST LAS POSITAS BOULEVARD, SUITE 205
PLEASANTON, CALIFORNIA

JUNE 2001

REPORT LIMITATIONS

This report has been prepared in accordance with generally accepted practices using standards of care and diligence normally practiced by recognized consulting firms performing services of a similar nature. This report presents our professional judgment based upon data and findings identified in this report and the interpretation of such data based on our experience and background, and no warranty, either expressed or implied, is made. The conclusions presented are based on the current regulatory climate and may require revision if future regulatory changes occur.

The findings identified in this report are predicated on the results of the limited sampling and laboratory testing performed. This report does not address impacts related to sources other than those specified herein.

The contents of this report reflect the views of Geocon Consultants, Inc., who is responsible for the facts and accuracy of the data presented herein. The contents do not necessarily reflect the official views or policies of the State of California or the Federal Highway Administration. This report does not constitute a standard, specification, or regulation.

GEOCON CONSULTANTS, INC.


Matthew W. Hanco, REA
Senior Project Scientist


Richard W. Day, CEG, CHG
Regional Manager



CALIFORNIA DEPARTMENT OF TRANSPORTATION
DIVISION OF TOLL BRIDGE PROGRAM - ENVIRONMENTAL ENGINEERING BRANCH

Reviewed by:

Approved by:


Charles Smith, PE
Environmental Engineer

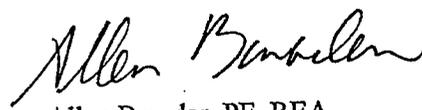

Allen Baradar, PE, REA
Senior Environmental Engineer

TABLE OF CONTENTS

VOLUME I

| | |
|--|-----|
| PROJECT TEAM..... | iii |
| LIST OF ACRONYMS..... | iv |
| EXECUTIVE SUMMARY | vi |
| 1.0 INTRODUCTION | 1 |
| 1.1 Proposed Improvements and Project Description..... | 1 |
| 1.2 Purpose | 1 |
| 2.0 BACKGROUND | 3 |
| 2.1 Historical Use | 3 |
| 2.3 Contaminants of Concern..... | 4 |
| 2.4 Hazardous Waste Determination Criteria | 4 |
| 3.0 SCOPE OF SERVICES..... | 6 |
| 3.1 Pre-Field Activities | 6 |
| 3.2 Field Activities..... | 6 |
| 4.0 INVESTIGATIVE METHODS..... | 8 |
| 4.1 Soil Sampling..... | 8 |
| 4.3 Groundwater Sampling..... | 9 |
| 4.4 Laboratory Analyses..... | 9 |
| 5.0 INVESTIGATION RESULTS | 12 |
| 5.1 Soil..... | 12 |
| 5.1.1 Petroleum Hydrocarbons and AHVOCs | 12 |
| 5.1.2 Organochlorine Pesticides and PCBs | 13 |
| 5.1.3 Title 22 Metals and pH..... | 13 |
| 5.1.4 PAHs | 14 |
| 5.2 Groundwater | 14 |
| 6.0 CONCLUSIONS AND RECOMMENDATIONS | 16 |
| 6.1 Petroleum Hydrocarbons and AHVOCs in Soil..... | 16 |
| 6.2 Organochlorine Pesticides and PCBs in Soil | 17 |
| 6.3 Title 22 Metals and pH in Soil..... | 18 |
| 6.4 PAHs | 19 |
| 6.5 Groundwater | 19 |

TABLE OF CONTENTS (Continued)

TABLES

- 1 Summary of Sample Locations
- 2 Summary of TPHg, TPHd, TPHmo, AHVOCs, Pesticides, and PCBs Analytical Results - Soil
- 3 Summary of Title 22 Metal Analytical Results-Soil
- 4 Summary of PAH Analytical Results - Soil
- 5 Summary of Lead: Total, WET, and TCLP with pH Analytical Results - Soil
- 6 Summary of TPHg, TPHd, TPHmo, VOCs, Pesticides, PCBs, EDB, and Cyanide Analytical Results - Groundwater
- 7 Summary of Total and Dissolved Title 22 Metal Analytical Results – Groundwater

FIGURES

- 1 Vicinity Map
- 2a/2b Yerba Buena Island Detour Structure Sample Locations
- 2c/2d Yerba Buena Island Transition Structure Sample Locations
- 3 Petroleum Hydrocarbons and AHVOCs in Soil
- 4 Chlorinated Pesticide and PCB Distribution in Soil
- 5 PAH Distribution in Soil
- 6a/6b Lead Distribution in Soil
- 7 Petroleum Hydrocarbon, AHVOCs, SVOCs Distribution in Groundwater

APPENDICES

- A The Department Encroachment Permit
- B Boring Logs

VOLUME II

- C Laboratory Reports and Chain-of-Custody Documentation
- D Lead Statistical Analysis

PROJECT TEAM

| Contact | Affiliation | Responsibility |
|---|---|---|
| Allen Baradar, PE, REA (510) 286-5636 (510) 286-5650 fax | Department – District 4 Division of Toll Bridge Program Environmental Engineering Branch | Contract Manager |
| Charles Smith, PE (510) 286-5651 Gabriel Teruz (510) 286-5587 | 111 Grand Avenue, 14 th Floor Oakland, California 94623 | Assistant Contract Managers |
| Richard Day, RG, CEG, CHG Matt Hanko, REA Travis Mills West Bourgalt (925) 371-5900 (925) 371-5915 fax | Geocon Consultants, Inc. 2356 Research Drive Livermore, CA 94550 (<i>Department Contractor</i>) | Project Planning and Coordination Fieldwork, Sample Collection, Laboratory Assignments, Site Investigation Report |
| Chris Pruner (925) 313-5800 (925) 313-5715 fax | Gregg Drilling 950 Howe Road Martinez, California 94533 (<i>Geocon Subcontractor</i>) | Drilling Services |
| Diane Galvin (562) 989-4045 (562) 989-4040 fax | Advanced Technology Laboratories, Inc 1510 East 33 rd Street Signal Hill, California 90807 (<i>Geocon Subcontractor</i>) | Sample Holding Laboratory Preparation Laboratory Analyses Laboratory QA/QC |
| Bob Cruz (888) 278-9276 (831) 461-9772 fax | Cruz Brothers 105 Serra Way, Suite 426 Milpitas, CA 95035 (<i>Geocon Subcontractor</i>) | Utility Locating |

LIST OF ACRONYMS

| | |
|------------|--|
| 40 CFR | Chapter 40 of the Code of Federal Regulations |
| AHVOCs | Aromatic Halogenated-volatile Organic Compounds |
| ATL | Advanced Technology Laboratories |
| Basin Plan | Water Quality Control Plan for the San Francisco Bay Basin |
| bgs | Below ground surface |
| BRAC | Base Realignment and Closure |
| Department | California Department of Transportation |
| CCR | California Code of Regulations |
| CEG | Certified Engineering Geologist |
| DDD | Dichlorodiphenyl dichloroethane |
| DDE | Dichlorodiphenyl dichloroethylene |
| DDT | Dichlorodiphenyl trichloroethane |
| EDB | Ethylene Dibromide |
| ELAP | Environmental Laboratory Accreditation Program |
| EPA | United States Environmental Protection Agency |
| Geocon | Geocon Environmental Consultants, Inc. |
| GPS | Global Positioning System |
| I-80 | Interstate 80 |
| IR | Installation Restoration |
| IRP | Installation Restoration Program |
| LDR | Land Disposal Restriction |
| mg/kg | Milligrams per Kilogram |
| mg/L | Milligrams per Liter |
| mm | Millimeters |
| NAVSTA TI | Naval Station Treasure Island |
| PAHs | Polycyclic Aromatic Hydrocarbons |
| PCBs | Polychlorinated Biphenyls |
| PE | Professional Engineer |
| ppt | parts per thousand |
| PVC | Polyvinyl Chloride |
| QA/QC | Quality Assurance/Quality Control |
| RCRA | Resource, Conservation, and Recovery Act |
| REA | Registered Environmental Assessor |
| RG | Registered Geologist |
| SFOBB | San Francisco-Oakland Bay Bridge |
| STLC | Soluble Threshold Limit Concentration |
| TCLP | Toxicity Characteristics Leaching Procedure |
| TO | Task Order |

| | |
|-------|---|
| TPHd | Total Petroleum Hydrocarbons as diesel |
| TPHg | Total Petroleum Hydrocarbons as gasoline |
| TPHmo | Total Petroleum Hydrocarbons as motor oil |
| TTLc | Total Threshold Limit Concentration |
| ug/kg | micrograms per kilogram |
| ug/l | micrograms per liter |
| UCL | Upper Confidence Limit |
| UST | Underground Storage Tank |
| UTS | Universal Treatment Standard |
| VOCs | Volatile Organic Compounds |
| WET | Waste Extraction Test |
| WQO | Water Quality Objective |
| YBI | Yerba Buena Island |

EXECUTIVE SUMMARY

In accordance with California Department of Transportation (Department) Contract No. 43A0012 and Task Order (TO) No. 04-012000-FC, Geocon Consultants, Inc. as performed a chemical evaluation of materials that will be excavated for a Department construction project at the San Francisco-Oakland Bay Bridge (SFOBB) Interstate 80 (I-80) East Span on Yerba Buena Island (YBI) in San Francisco County, California. The work has been performed in response to The Department proposal to replace the SFOBB East Span, located between YBI and the SFOBB Toll Plaza. The preferred replacement alternative is to construct a new bridge on an alignment that varies from 0 to 350 meters north of the existing alignment. The bridge will transition from a double-deck viaduct at YBI to two parallel bridge decks, supported by a combination of suspension and skyway designs (transition structures), to the existing touchdown area. In addition, temporary structures (detour structures) are required to shift traffic from the existing structure while the transition structures are being built. The area investigated included the area of each footprint for each pier that will be constructed for the proposed structures (Bent).

The purpose of the scope of work outlined in the Geocon *Site Investigation Workplan* dated January 2001 for TO No. 04-012000-FC was to chemically characterize soil and groundwater for potential contaminants that may be encountered during construction activities. This work was accomplished through the advancement of soil borings and the collection and analysis of soil and groundwater samples. The investigative results will be used by The Department to evaluate health and safety issues, appropriate soil re-use and disposal criteria, discharge requirements for groundwater removed from excavations, and groundwater isolation measures to prevent cross-contamination of water-bearing zones during pile and tie down installation.

HISTORICAL USE

Historical use information regarding YBI was obtained from the Clayton Environmental Consultants *Phase I Site Assessment San Francisco-Oakland Bay Bridge Yerba Buena Island Parcel Acquisition Project* dated December 31, 1996 (Phase I Report). The Navy has occupied YBI since 1898. Other cohabitating occupants of YBI since the Navy's occupation have included the United States Army and the United States Coast Guard. The Navy owned and occupied all of the adjacent man-made Treasure Island and a portion of YBI. In 1947, the occupied portions were designated collectively as NAVSTA TI, which has remained operational since its conception. In 1993, the Base Realignment and Closure (BRAC) Commission designated NAVSTA TI for closure in 1997. Within the boundaries of the proposed work area, four Installation Restoration (IR) Sites have been

identified by Installation Restoration Program (IRP) investigations. According to the Phase I Report, the IR Sites have been identified as follows:

- IR Site 8 – Located on Army Point (extreme eastern point of the island), the Army Point Sludge Disposal Area was reportedly used for drying of sludge from the wastewater treatment plant on Treasure Island between 1968 and 1976. The ultimate disposition of the sludge once it was dried was not disclosed; however, it was reported that IR Site 8 was not used for the disposal of the sludge. Based on the remedial investigation, there was no evidence of contaminants typically associated with sludge disposal in the area. As a result of a subsequent human health and ecological risk assessments, IR Site 8 was recommended for no action.
- IR Site 11 – Located on the south side of the eastern tip of YBI is a portion of land and former marsh area measuring approximately 61 meters by 183 meters known as the YBI Landfill. Based on previously performed remedial investigations and human health and ecological risk assessments, this site was recommended for further investigation due to the presence of elevated concentrations of lead, beryllium, polycyclic aromatic hydrocarbons (PAHs), and pesticides.
- IR Sites 28 and 29 consist of the soils beneath and surrounding the on- and off-ramps on the east and west side of the YBI tunnel and existing viaduct of the SFOBB. These soils are suspected of containing impacts by aerially deposited lead from both historical vehicle fuel emissions and structure painting and maintenance. Based on the RI and human health and ecological risk assessment, there is potential for risk to human health and ecological receptors.

In addition to the IR sites, the following underground storage tanks (USTs) and fuel line have been identified in the area impacted by the bridge project.

- A diesel UST was formerly located on the south side of Building 270. Building 270 is depicted in Figure 2b. The UST was removed in 1990. Soil and groundwater investigations have reported some free product floating on groundwater and diesel concentrations in groundwater up to 1,000 milligrams per liter (mg/L). The contaminated groundwater plume was reported to extend approximately 270 feet to the southwest of Building 270.
- Two inactive underground fuel pipelines, which provided fuel to the Coast Guard area, ran north to south across the eastern end of YBI, terminating in the vicinity of Building 270. The pipelines were reportedly removed in 1998.

Two existing structures consisting of a concrete Imhoff tank (above ground tank) and sewage lift station located near IR Site 11. The Imhoff tank is believed to be a wastewater settling tank for sanitary waste stream. Formerly in the area of the Imhoff tank and sewage lift station, buildings identified as a fire station, a gasoline filling station, a sawmill, an incinerator, and a storage unit were present. The disposition of two USTs that were associated with the former gasoline filling station was not reported.

SUMMARY OF ANALYTICAL DATA

Petroleum Hydrocarbons and AHVOCs in Soil

Total petroleum hydrocarbons as motor oil (TPHmo) and total petroleum hydrocarbons as diesel (TPHd) were detected in soil samples throughout the site. The laboratory analytical data indicated that the reported TPHmo and TPHd often were hydrocarbons that fall within the diesel and/or motor oil range but do not match either chromatographic pattern. It is likely that some of the hydrocarbon compounds detected were not petroleum based. However, distinct TPHmo and TPHd contaminants were present in soil samples collected from borings located at Bents EB6R, EB7L, EB7R, EB8L (each in the vicinity of Building 270), EB13L, EB14R (in the vicinity of the waste water lift station, and W5LC (in the vicinity of Building 213). Total petroleum hydrocarbons as gasoline (TPHg) was detected in 7 of 121 soil samples collected from borings in the vicinity of building 270 (EB6R) and near the area of the former waste water lift station (EB13L and EB14R) at concentrations that ranged from 5.4 milligrams per kilogram (mg/kg) to 2,200 mg/kg.

The range of TPHd concentrations in the vicinity of Building 270, Building 213, and the former wastewater lift station were from 4.8 mg/kg to 15,000 mg/kg, and the range of TPHmo was from 3.2 mg/kg to 9,700 mg/kg. Typically the higher concentrations were present in soil samples collected near the soil water interface; thus, resulting from a smearing effect from impacted groundwater.

TPHg was reported in soil samples that contained high concentrations of TPHd (those Bent locations identified above), and Aromatic Halogenated Volatile Organic Compounds (AHVOCs) were detected at low concentrations only in the presence of TPHg.

One soil sample was collected from boring W5LC at the soil-water interface (9.1 meter below ground surface). Contaminants present in this sample included 220 mg/kg of TPHg, 8,000 mg/kg of TPHd, 5,500 mg/kg of TPHmo, 4-isopropyltoluene (650 micrograms per kilogram [ug/kg]), isopropylbenzene (500 ug/kg), n-butylbenzene (1,900 ug/kg), n-propylbenzene (800 ug/kg), and naphthalene (12,000 ug/kg). No other boring in the vicinity of Bent W5L was advanced to the soil-water interface; however, it is likely that soil conditions at other Bents in the vicinity will be of similar quality.

Due to the depth of the potential petroleum-contaminated soil on most of the site, these contaminants would only be encountered during pile installation. However, excavations for some pile caps at lower elevations of the site near Building 270 and the former waste water lift station may also be of sufficient depth to encounter petroleum-contaminated soil. These soils should be removed from the site to an appropriate landfill or treated prior to reuse. The foundations affected potentially extend

from Bent W7 to Bent W4 on the transition structure alignment and from Bent EB4 to Bent EB17 and from Bent WB13 to Bent WB18 on the detour structure alignment.

Organochlorine Pesticides and PCBs in Soil

A total of 132 soil samples were analyzed for organochlorine pesticides and polychlorinated biphenyls (PCBs), of which, pesticides were present in 17 samples and PCBs were present in four samples.

The pesticides detected included DDT and its metabolites DDE and DDD, Endosulfan I, Aldrin, beta-BHC, and delta-BHC. DDT was the only pesticide that was greater than the respective Universal Treatment Standard (UTS). The UTS for DDT is 870 ug/kg and the maximum DDT concentration was 1,100 ug/kg in sample WB7L at 0.3 meters below ground surface (bgs). This was the only DDT detection greater than the UTS.

Pesticide concentrations exceeded Total Threshold Limit Concentration (TTLC) in only one sample, WB7L at 0.3 meters bgs. The TTLC for DDT and its metabolites is 1,000 ug/kg. The cumulative DDT and metabolite concentration in sample WB7L at 0.3 meters is 1,810 ug/kg.

Widespread accumulations of pesticides are not indicated by the analysis results. However, excavated material represented by sample WB7L at 0.3 meters bgs would be characterized as non-Resource, Conservation and Recovery Act (non-RCRA) hazardous. Since the concentrations of DDT, DDE, and DDD are less than 10 times the respective UTS, treatment prior to land disposal is not required.

The PCB Aroclors detected in soil were present at concentrations less than the respective TTLCs and UTSS.

Title 22 Metals and pH in Soil

A total of 138 discrete soil samples and 13 composite soil samples were analyzed for Title 22 metals, and an additional 387 discrete and 72 composite soil samples were analyzed for total lead only. Thus, 525 lead analytical results were obtained from discrete soil samples. Title 22 Metals were not detected at total concentrations greater than respective TTLC values, except lead; and metals with concentrations that exceeded 10 times the STLC included barium, chromium, copper, and lead. The barium, chromium, and copper values that exceeded 10 times the Soluble Threshold Limit Concentration (STLC) were each present in one respective discrete soil sample at boring location

EB14R. Lead concentrations in discrete soil samples that exceeded the TTLC or 10 times the STLC were present in 152 soil samples.

- The soluble barium, chromium, and copper concentrations did not exceed their respective STLC values.
- A total of 525 discrete soil samples and 85 composite soil samples were analyzed for lead. Of the 525 discrete samples analyzed for lead, 136 had lead concentrations that were equal to or greater than 50 mg/kg and 16 had concentrations that were equal to or greater than 1,000 mg/kg. A total of 98 Water Extraction Test (WET) analyses for lead was performed on discrete soil samples where lead concentrations were greater than 50 mg/kg, of which, 45 of the analytical results demonstrated concentrations that were equal to or greater than the STLC value for lead of 5.0 mg/L. A total of 38 Toxicity Characteristic Leaching Procedure (TCLP) analyses were performed for discrete soil samples where the total lead concentration exceeded 1,000 mg/kg and/or the WET result exceeded 5.0 mg/L, and only two results exceeded the TCLP value for lead of 5 mg/L. A statistical analysis for the lead data was performed for discrete samples across the entire site. 90% Upper confidence Levels (UCLs) for the total lead means ranged from 453 mg/kg at the surface to 69 mg/kg at 2 feet bgs. The statistical analysis is included as Appendix D.
- 29 soil samples that had total lead concentrations greater than 50 mg/kg were analyzed for pH. The pH ranged from 5.34 to 9.05.

Lead was the only metal detected at concentrations above regulatory thresholds. Concentrations that exceed typical naturally occurring levels are generally confined to unpaved areas within 0.9 meters bgs. The exception to this trend is within the area of the former wastewater lift station (IR Site 11) where higher concentrations were detected at depths of 1.5 and 3.4 meters. With the exception of the contaminated material at locations EB14R and EB15L (adjacent to the former waste water lift station), excavated material with lead contamination would be characterized as non-RCRA hazardous. Excavated material with lead contamination at locations EB14R and EB15L would be characterized as RCRA hazardous.

There were a total of 18 borings where discrete and composite samples were analyzed at similar depths for total lead. Comparison of the composite with the corresponding discrete sample results indicate that high concentrations in one or two of the samples caused the some of the composite sample concentrations to exceed regulatory thresholds. This occurred at W7E, W3R, W3L, W5R, and W9L.

Discrete sample analysis performed at locations where composite samples were analyzed indicate that segregating excavated materials within paved and unpaved areas at Pier W5R will result in the characterization of less material as non-RCRA hazardous.

PAHs in Soil

A total of 120 discrete soil samples and 16 composite soil samples were analyzed for PAHs. Of the 120 discrete soil samples analyzed for PAHs: 59 samples had non-detectable concentrations and 61 samples had detectable concentrations of PAHs above the respective laboratory reporting limit, with five samples containing concentrations that exceeded respective UTS. None of the PAH concentrations that exceeded the UTS were present at concentrations greater than 10 times the respective UTS; thus, there should be no Land Disposal Restriction (LDR) for soil containing PAHs. Composite soil sample results for PAHs indicated that PAHs detected were less than the UTS. The PAH concentrations in all remaining soil samples were present at concentrations less than the UTSs and generally less than 1 mg/kg. The 5 boring locations that had detectable concentrations of PAHs greater than the UTSs are borings WB7L, EB8L, EB14R, W4R, and W5LC.

Groundwater Analytical Data

Groundwater was encountered in eight boreholes locations (EB6R, EB7L, EB8L, EB9L, EB10R, EB13L, EB14R, and W5L). TPHd was present in groundwater at all sampled locations. The areas where groundwater was encountered include the following:

- Eastbound detour Bents in the vicinity of and within the influence of the former diesel UST release at Building 270 (EB6R, EB7R, EB8L, EB9L, and EB10R),
- In the vicinity of the former waste water lift station (EB13L and EB14R), and
- In the vicinity of Building 213 the current fire station for YBI and Treasure Island (W5L).

Borings W4LC and W4LD were advanced to approximately 6 meters bgs to bedrock and saturated conditions were not encountered; however, petroleum hydrocarbon odors were noted in soil immediately above the termination depths where it was not present in the soil profile above that point. The TPHd odor at depth indicates that TPHd impacted groundwater has had a historical presence in the area of exploration. It is possible that TPHd impacted groundwater encountered near Building 213 may be connected to the historical groundwater impacts in the vicinity of borings W4LC and W4LD; thus, demonstrating a diesel plume that may impact other Bents in the vicinity.

TPHd concentrations ranged from 3.1 mg/L (EB9L) to 1,200 mg/L (EB7R). TPHg was also present in five of the six groundwater samples analyzed at concentrations that ranged from 0.12 mg/L (EB7R) to 0.57 mg/L (W5LC); however, the laboratory reported the TPHg as gasoline range organics and indicated that where TPHg was detected, hydrocarbons were within the gasoline range, but do not match the gasoline pattern.

Volatile Organic Compounds (VOCs) were only present in the groundwater sample (W5LC) and were inclusive of benzene (0.88 micrograms per liter [ug/L]), total xylenes (2.14 ug/L), 1,2,4-trimethylbenzene (6.3 ug/L), and naphthalene (39 ug/L). Semi-Volatile Organic Compounds (SVOCs) were present in three of the eight samples analyzed (EB8L, EB13L, and W5LC) inclusive of 2-methylnaphthalene (max. 68 ug/L), phenanthrene (max. 93 ug/L), and fluorene (max. 11 ug/L). The compounds 2-methylnaphthalene and phenanthrene are also classified as PAHs. The Water Quality Objective (WQO) for PAHs is a cumulative total for all PAHs with no target concentrations for specific PAHs. Thus, the WQO for cumulative PAH is 15 ug/L. Therefore groundwater in the vicinity of EB8L, EB13L, and W5LC have PAH concentrations that exceed the WQOs.

The groundwater analyses indicate widespread petroleum contamination affecting a large portion of the project area, potentially extending from Bent W7 to Bent W4 on the transition structure alignment and from Bent EB4 to Bent EB15 and from Bent WB13 to Bent WB18 of the detour structure alignment.

The Title 22 dissolved metals were analyzed for in three samples from Bents W5L, EB13L and EB14R. Title 22 metals arsenic, chromium, copper, lead, and nickel, are present at concentrations exceeding the WQOs for surface water with a salinity greater than 5 parts per thousand (ppt). Mercury was not detected above the laboratory reporting limit, of 0.004 mg/L, however the listed WQOs for the 4-day and 1-hour averages are 0.000025 mg/L and 0.0021 mg/L, respectively. Therefore, mercury concentrations could not be compared with its WQOs. Other dissolved metals were not detected at concentrations greater than the 4-day or 1-hour average WQOs.

If dewatering is to be conducted during construction activities, then it is recommended that confirmation sampling of groundwater from the excavation be performed before dewatering operations commence. If elevated results are confirmed, then the discharge must be managed such that it will conform to the Water Quality Control Plan for the San Francisco Bay Basin (Basin Plan) WQOs or conditions of applicable general permits for groundwater discharges.

In addition, at locations where pile installation will involve passing through more than one water-bearing zone, the pile type or installation technique should result in isolation of the pile excavation from the impacted groundwater.

Based on groundwater analytical data, groundwater encountered during construction may require treatment for elevated metals, TPHg, TPHd, and TPHmo. Granular activated carbon filtration would be the recommended treatment method for petroleum hydrocarbons. Geocon recommends that, when practical, engineering controls should be utilized to minimize the volume of extracted groundwater.

The highest metal concentration was 4.1 mg/L of lead at location EB14R, which coincides with an unusually high soluble lead concentration in the soil sample. Further investigation may be warranted at this location to determine the nature of the lead compounds present.

SITE INVESTIGATION REPORT

1.0 INTRODUCTION

This Site Investigation Report presents the results of a limited subsurface soil and groundwater investigation performed at the subject site. This Site Investigation Report was prepared under California Department of Transportation (Department) Contract No. 43A0012 and Task Order (TO) No. 04-012000-FC.

The work performed for this investigation took place in San Francisco County, California at the San Francisco-Oakland Bay Bridge (SFOBB) Interstate 80 (I-80) East Span on Yerba Buena Island (YBI). The investigation focused on: 1) the land area in the shadow of the existing bridge where new piers will be constructed; and 2) the location of the new access roadways. The project location is depicted on the attached Vicinity Map, Figure 1.

The Navy formerly occupied portions of YBI and all of Treasure Island, collectively known as Naval Station Treasure Island (NAVSTA TI). Portions of the investigation area are located within the former NAVSTA TI boundary and United States Coast Guard boundary where former NAVSTA TI operations have resulted in hazardous materials impacts to the soil and groundwater.

1.1 Proposed Improvements and Project Description

The Department proposes to replace the SFOBB East Span between YBI and the SFOBB Toll Plaza, in San Francisco and Alameda Counties. The preferred replacement alternative is to construct a new bridge on an alignment that varies from 0 to 350 meters north of the existing alignment. The bridge will transition from a double-deck viaduct at YBI to two parallel bridge decks (transition structures), supported by a combination of suspension and skyway designs, to the existing Oakland touchdown area. In addition, temporary structures (detour structures) are required to shift traffic from the existing structure while the transition structures are being built. The foundations for the transition and detour structures on YBI will consist of cast-in-place piles with pile caps and footings with bedrock tie downs.

1.2 Purpose

The purpose of the scope of work outlined in the Geocon *Site Investigation Workplan* dated January 2001 for TO No. 04-012000-FC was to chemically characterize soil and groundwater for potential contaminants that may be encountered during construction activities. This work was accomplished through the advancement of soil borings and the collection and analysis of soil and groundwater

samples. The soil boring locations are depicted on Figures 2a through 2d. The investigative results will be used by The Department to evaluate health and safety issues, appropriate soil re-use and disposal criteria, discharge requirements for groundwater removed from excavations, and groundwater isolation measures to prevent cross-contamination of water-bearing zones during pile and tie down installation.

2.0 BACKGROUND

The following section presents a brief historical use perspective of YBI.

2.1 Historical Use

Historical use information regarding YBI was obtained from the Clayton Environmental Consultants *Phase I Site Assessment San Francisco-Oakland Bay Bridge Yerba Buena Island Parcel Acquisition Project* dated December 31, 1996 (Phase I Report). The Navy has occupied YBI since 1898. Other cohabitating occupants of YBI since the Navy's occupation have included the United States Army and the United States Coast Guard. The Navy owned and occupied all of the adjacent man-made Treasure Island and a portion of YBI. In 1947, the occupied portions were designated collectively as NAVSTA TI, which has remained operational since its conception. In 1993, the Base Realignment and Closure (BRAC) Commission designated NAVSTA TI for closure in 1997. Within the boundaries of the proposed work area, four Installation Restoration (IR) Sites have been identified by Installation Restoration Program (IRP) investigations. According to the Phase I Report, the IR Sites have been identified as follows:

- IR Site 8 – Located on Army Point (extreme eastern point of the island), the Army Point Sludge Disposal Area was reportedly used for drying of sludge from the wastewater treatment plant on Treasure Island between 1968 and 1976. The ultimate disposition of the sludge once it was dried was not disclosed; however, it was reported that IR Site 8 was not used for the disposal of the sludge. Based on the remedial investigation, there was no evidence of contaminants typically associated with sludge disposal in the area. As a result of a subsequent human health and ecological risk assessments, IR Site 8 was recommended for no action.
- IR Site 11 – Located on the south side of the eastern tip of YBI is a portion of land and former marsh area measuring approximately 61 meters by 183 meters known as the YBI Landfill. Based on previously performed remedial investigations and human health and ecological risk assessments, this site was recommended for further investigation due to the presence of elevated concentrations of lead, beryllium, polycyclic aromatic hydrocarbons (PAHs), and pesticides.
- IR Sites 28 and 29 consist of the soils beneath and surrounding the on- and off-ramps on the east and west side of the YBI tunnel and existing viaduct of the SFOBB. These soils are suspected of containing impacts by aurally deposited lead from both historical vehicle fuel emissions and structure painting and maintenance. Based on the RI and human health and ecological risk assessment, there is potential for risk to human health and ecological receptors.

In addition to the IR sites, the following underground storage tanks (USTs) and fuel line have been identified in the area impacted by the bridge project.

- A diesel UST was formerly located on the south side of Building 270. Building 270 is depicted in Figure 2b. The UST was removed in 1990. Soil and groundwater investigations have reported some free product floating on groundwater and diesel concentrations in groundwater up to 1,000 milligrams per liter (mg/L). The contaminated groundwater plume was reported to extend approximately 270 feet to the southwest of Building 270.
- Two inactive underground fuel pipelines, which provided fuel to the Coast Guard area, ran north to south across the eastern end of YBI, terminating in the vicinity of Building 270. The pipelines were reportedly removed in 1998.

Two existing structures consisting of a concrete Imhoff tank (above ground tank) and sewage lift station located near IR Site 11. The Imhoff tank is believed to be a wastewater settling tank for sanitary waste stream. Formerly in the area of the Imhoff tank and sewage lift station, buildings identified as a fire station, a gasoline filling station, a sawmill, an incinerator, and a storage unit were present. The disposition of two USTs that were associated with the former gasoline filling station was not reported.

2.3 Contaminants of Concern

The primary contaminants of concern at the subject site are (1) lead due to vehicle emissions, lead-based paint debris from existing structures, and from NAVSTA TI landfill activities; and (2) total petroleum hydrocarbons due to fuel transmission and storage activities. In addition to lead and petroleum hydrocarbons, select soil and groundwater samples were analyzed for the following list of compounds due to prior and current industrial and NAVSTA TI activities.

- Title 22 metals
- PAHs (soil samples only) and other Semi-Volatile Organic Compounds (SVOCs) (groundwater samples only)
- Aromatic Halogenated Volatile Organic Compounds (AHVOCs) (soil samples only)
- Organochlorine Pesticides (soil samples only)
- Polychlorinated Biphenyls (PCBs) (soil samples only)

2.4 Hazardous Waste Determination Criteria

Regulatory criteria to classify a waste as Resource, Conservation, and Recovery Act (RCRA) hazardous and non-RCRA hazardous for handling and disposal purposes are contained in the *California Code of Regulations (CCR)*, Title 22, Division 4.5, Chapter 11, Article 3, Chapter 40 of the Code of Federal Regulations (40 CFR), Chapter 1, Part 261. For a waste containing metals, the

waste is classified as non-RCRA when: 1) the total metal content exceeds its Total Threshold Limit Concentration (TTLC); or 2) the soluble metal content exceeds its Soluble Threshold Limit Concentration (STLC) based on Waste Extraction Test (WET) analysis. A material is classified as RCRA hazardous when the soluble metal content exceeds the Federal Regulatory Level based on Toxicity Characteristic Leaching Procedure (TCLP) testing.

State and/or federal regulatory levels have also been established for select pesticides, Volatile Organic Compounds (VOCs), SVOCs, and PAHs. Currently, regulatory criteria for the classification of wastes containing petroleum hydrocarbons have not been promulgated.

The above regulatory criteria are based on toxicity. Wastes may also be classified as hazardous based on other criteria such as corrosivity and ignitability. However, for the purposes of this investigation, toxicity (e.g., concentration) is the primary factor considered for waste classification since waste generated during the construction activities would not likely warrant testing for corrosivity, ignitability or other criteria.

Waste that is classified as either non-RCRA hazardous or RCRA hazardous requires management as a hazardous waste. According to 40 CFR 268.49, soil containing listed wastes or exhibiting a characteristic of a hazardous waste are subject to Land Disposal Restrictions (LDRs) and must undergo treatment to reduce the contaminant concentration by 90 percent. If the 90 percent reduction would result in a concentration less than 10 times the Universal Treatment Standard (UTS), treatment to achieve a concentration of less than 10 times the UTS does not have to be performed. In effect, if the contaminant concentration in soil does not exceed 10 times the UTS, treatment prior to land disposal is not required.

3.0 SCOPE OF SERVICES

Geocon performed the following scope of services that included site meetings, on-site fieldwork, laboratory analyses, and preparation of this Site Investigation Report.

3.1 Pre-Field Activities

- Conducted the pre-work site visit in January 2001. The Department representatives Gabriel Tcruz and Geocon representative Richard Day attended the meeting. The pre-work meeting was performed to locate and inspect the work areas, and to discuss logistics (e.g.; soil sampling methodologies). During this meeting, the Department and Geocon contract managers executed the Site Visit Checklist, Completion Schedule, and Notice to Proceed.
- Prepared a health and safety plan for the proposed field activities. The health and safety plan provided guidelines on the use of personal protective equipment and the health and safety procedures implemented during the field activities.
- Obtained a Department encroachment permit (Permit No. 0401-NSV0126) to perform the field activities within The Department right-of-way included as Appendix A; and obtained permission to enter United States Navy and United States Coast Guard properties.
- Contacted the local public utilities via Underground Service Alert and hired a private utility locator to perform a utility survey to attempt to delineate subsurface public and private utilities and conduits in proximity to the boring locations.
- Retained the services of Gregg Drilling, a Department-approved and California-licensed driller, to perform the drilling work; Advanced Technology Laboratories (ATL), a California-certified hazardous materials testing laboratory (ELAP No.: 1838), to perform soil and groundwater analyses; and Cruz Brothers Subsurface Locators, Inc. to locate underground utilities in the vicinity of the boring locations.

3.2 Field Activities

The fieldwork for this project was performed under the direct supervision of Geocon's field supervisor and/or project manager.

- Utilized a Global Positioning System (GPS) unit to locate each boring. Borings were located based on landmarks in the absence of adequate satellite connections.
- Prior to drilling, a utility survey was performed by Cruz Brothers Subsurface Locators, Inc. to identify and delineate potential underground utilities and structures at all designated hollow stem auger boring locations.
- 142 borings were advanced using a hand auger, direct push, or a hollow stem auger rig at the subject site. The boring locations and identifications are depicted on Figures 2a through 2d. The boring locations were categorized into two investigation units as follows:
 - Transition Structures (W2 through W11 and W7E through W10E)
 - Detour Structures (WB1 through W22 and EB1 through EB17)
- Soil samples were collected from the borings at the depths shown in Tables 2 through 5.

- Groundwater samples were collected from borings EB6R, EB7R, EB8L, EB9L, EB10R, EB13L, EB14R, and W5LC.
- Soil and groundwater samples were containerized, labeled, placed in a cooler with ice, and transported to ATL in Signal Hill, California for chemical analyses under standard chain-of-custody procedures.
- The borings were logged by Geocon personnel under the supervision of a California Certified Engineering Geologist (CEG) using the Unified Soil Classification System. Boring logs are included as Appendix B.
- Prior to, and following each use of the sampling equipment, the equipment was decontaminated with an Alconox wash solution, rinsed with tap water, and a final rinse with distilled water. Where hollow-stem auger drilling was utilized, steam-cleaned hollow-stem auger flights were used. Sufficient quantities of auger flights were delivered to the site so that there was no reuse of the flights.
- Upon completion of the soil sampling with the direct push rig, the borings were backfilled with Portland Cement grout. Shallow hand auger borings were backfilled with the soil cuttings with the exception of those hand auger borings advanced in the vicinity of the YBI Department Maintenance Station. For those hand auger borings, the boreholes were backfilled with Portland Cement grout. For each boring advanced through a paved surface, the boreholes are capped with concrete.
- Soil cuttings and decontamination water generated during the field activities were placed in US Department of Transportation-approved drums, labeled, and stored in a secure area adjacent to a bridge pier near Building 213 (firehouse) pending analysis and disposal.

4.0 INVESTIGATIVE METHODS

The rationale and method of investigation for the boring advancement, sampling procedures and protocols, and laboratory analyses are discussed below.

4.1 Soil Sampling

The boring locations, soil boring identification, the soil and groundwater sampling frequency, and the analytical program were specified by The Department's Division of Toll Bridge Program, Environmental Engineering Branch personnel. The boring locations were chosen to fall within the limits of planned excavation for the detour and transition structures. The soil sampling intervals were selected systematically with denser spacing at shallow depths where lead deposits are generally found. At large foundation locations, samples were composited by depth to obtain a representative sample of the material to be excavated.

Coordinates for the boring locations were derived from the Department provided CADD files and an attempt was made to locate the designated borings with a Trimble Pathfinder GPS unit prior to advancing borings. The accuracy of the GPS unit was within one meter of horizontal delineation. The GPS unit receives global positioning information from a network of satellites. Due to interference from the existing SFOBB blocking adequate satellite connection with the GPS unit, many of the boring locations were not located with the GPS unit. Those borings not located with the GPS unit were located based on landmarks. A summary of the GPS surveyed coordinates is presented in Table 1.

Some boring locations, sample depths, and laboratory analysis deviated from the TO protocol with concurrence by the Department contract manager. Some soil samples designated in the TO were not collected from various borings due to refusal (e.g.; encountered bedrock). Some boring locations were eliminated due to restrictions of the terrain or structures. In some cases for the transition structure locations, one boring was advanced to represent a portion or all of a transition structure footing area.

Soil borings and soil sampling were performed at various locations by one of three methods:

- A stainless steel hand auger was used to advance borings. Soil samples to be analyzed for target analytes other than metals, and all surface soil samples were retrieved utilizing a slide hammer equipped sample bucket lined with one 152.4-millimeter (mm) long by 50.8-mm diameter (6-inch long by 2-inch diameter) stainless steel sample tube to facilitate sample handling and storage. For all soil samples that were to be analyzed for metals only, the soil samples were collected from the auger bucket and placed into sealed plastic bags.
- A truck-mounted Geoprobe sampling system was used to advance borings, and soil samples were retained in acetate liners to facilitate sample handling and storage.

- A truck-mounted hollow-stem auger drilling rig was used to advance borings, and soil samples were collected utilizing an 0.45-meter (18-inch) California Modified Split Spoon sample bucket lined with three 152.4-mm by 50.8-mm stainless steel sample tubes to facilitate sampling handling and storage.

The sleeve sections from the Geoprobe sampling system and stainless steel sample tubes from the slide hammer and split spoon samplers were fitted with Teflon® sheets on each end, and secured with plastic caps. All samples were labeled, placed in a chilled cooler, and transported to ATL using standard chain-of-custody procedures.

At all boring locations, borings were advanced until refusal was encountered or to the designated termination depth. The borings ranged in depth from 0.3 to 9.1 meters (1 to 30 feet) below ground surface (bgs). The actual sampling depths for each boring are presented in Tables 2 through 5.

Quality assurance/quality control (QA/QC) procedures provided during the field activities included cleansing/rinsing of the sampling equipment and the use of pre-cleaned augers/samplers at each boring location. Cleansing/rinsing of the sampling equipment was performed prior to the collection of each soil sample by washing the equipment with an Alconox wash solution followed by tap water and deionized water rinses.

4.3 Groundwater Sampling

Groundwater was encountered at a depth of approximately 2.4 meter (8 feet) bgs in the vicinity of the Building 270 (EB6 through EB10) and at approximately 9.5 meters (31 feet) in the vicinity of the existing firehouse (Building 213) (W5LC). At each boring, groundwater sampling was accomplished by placing a 19-mm (3/4-inch) diameter polyvinyl chloride (PVC) slotted casing to the termination depth of the open borehole and used as a temporary casing. The groundwater samples were collected from within the temporary casing using pre-cleaned disposable bailers. Groundwater samples were placed in appropriate laboratory-provided containers, labeled, placed in a chilled cooler, and transferred to ATL under standard chain-of-custody procedures. The PVC casing was removed following sample collection. The boreholes were then abandoned by grouting with neat cement and capped with concrete where appropriate.

4.4 Laboratory Analyses

Soil samples were submitted to the laboratory for the following analyses:

- Title 22 metals following United States Environmental Protection Agency (EPA) Test Method 6010/7471

- AHVOCs following EPA Test Method 8021B (with the exception of the 0.2-m surface samples)
- Single Element (Lead) following EPA Test Method 6010
- PAHs following EPA Test Method 8310
- Organochlorine Pesticides and PCBs following EPA Test Method 8080/8081
- Total Petroleum Hydrocarbons as gasoline (TPHg) following modified EPA Test Method 8015
- Total Petroleum Hydrocarbons as diesel (TPHd) and as motor oil (TPHmo) following modified EPA Test Method 8015B

In addition to the above analyses, soil samples that exhibited a total metal concentration greater than ten times its respective STLC value were subsequently analyzed for the appropriate soluble metal via WET analyses. Those samples that contained soluble lead concentrations greater than 5.0 mg/L or total lead concentrations greater than 1,000 milligrams per kilogram (mg/kg) were analyzed by TCLP. The TCLP was not performed on samples with WET results less than 5.0 mg/L. Selective soil samples were also analyzed for pH.

The following analyses were conducted on various groundwater samples:

- AHVOCs following EPA Test Method 8021B
- TPHg following modified EPA Test Method 8015
- TPHd and TPHmo following modified EPA Test Method 8015B
- Dissolved Title 22 metals following EPA Test Method 6010/7471
- SVOCs following EPA Test Method 8270

The water samples analyzed for dissolved Title 22 metals were filtered by the analytical laboratory upon receipt, prior to preservation.

QA/QC procedures were performed for each method of analysis with specificity for each analyte listed in the test method's QA/QC. The laboratory QA/QC procedures included the following:

- One method blank for every ten samples, batch of samples, or type of matrix, whichever was more frequent.
- One sample analyzed in duplicate for every ten samples, batch of samples, or type of matrix, whichever was more frequent.
- One spiked sample for every ten samples, batch of samples, or type of matrix, whichever was more frequent, with the spike made at ten times the detection limit or at the analyte level.

Prior to submitting the soil and groundwater samples to the laboratory, the chain-of-custody documentation was reviewed for accuracy and completeness. The laboratory reports were also reviewed for accuracy and consistency with the chain-of-custody documentation. In addition, the laboratory QA/QC summary reports were reviewed to determine if the laboratory results are within tolerance control limits. Based upon this review process, the data quality appears to be adequate.

5.0 INVESTIGATION RESULTS

The investigation results from the soil and groundwater sampling are discussed below.

5.1 Soil

A summary of the analytical laboratory test results for TPHg, TPHd, TPHmo, AHVOCs, Organochlorine Pesticides, and PCBs is presented in Table 2, and Figures 3 and 4 depict a distribution of the contaminants in soil. Table 3 summarizes the analytical laboratory test results for total Title 22 metals. Table 4 contains a summary of the analytical laboratory test results for PAHs and Figure 5 depicts the distribution of PAHs in soil at concentrations that match or exceed UTSS. Table 5 summarizes the analytical laboratory test results for lead as: Total, WET, and TCLP and also presents the pH results for soil. The distribution of lead in soil as Total, WET, and TCLP are presented on Figure 6. Copies of the laboratory reports and chain-of-custody documentation for the soil samples are included in Appendix C.

5.1.1 Petroleum Hydrocarbons and AHVOCs

A total of 121 soil samples were analyzed for TPHg, 147 analyzed for TPHd, 98 analyzed for TPHmo, and 152 analyzed for AHVOCs. Of the soil samples subjected to TPHg, TPHd, TPHmo, and AHVOCs laboratory analyses:

- TPHg was present in 7 of 121 samples analyzed at concentrations ranging from 5.4 mg/kg (EB13L at 3.3 meters bgs) to 2,200 mg/kg (EB8L at 1.2 meters bgs).
- TPHd was detected in 121 of 147 soil sample analyzed. TPHd was most commonly reported at concentrations of less than 100 mg/kg and frequently the laboratory indicated that samples contain hydrocarbons that fall within the diesel range but do not match the diesel pattern. The maximum TPHd concentration was 15,000 mg/kg in sample EB8L at a depth of 1.2 meters bgs. The higher TPHd concentrations that did fall within the diesel range and match the diesel pattern were detected in borings EB6R, EB7L, EB7R, EB8L, EB13L, EB14R, and W5LC.
- TPHmo was present in 72 of 98 soil samples analyzed. TPHmo was most commonly detected at concentrations less than 100 mg/kg. The maximum TPHmo concentration was 9,700 mg/kg in sample EB14R at a depth of 3.3 meters;
- AHVOCs were present in 11 of 152 soil samples analyzed. Dichlorodifluoromethane was present at the detection limit (50 micrograms per kilogram [ug/kg]) in 8 of the soil samples. Other AHVOCs detected included ethylbenzene and xylenes in two soil samples, EB8L at 1.2 meters bgs and W4R at 7 meters bgs; and
- The most highly impacted sample was collected from boring W5LC at the soil-water interface (9.1 meter bgs). Contaminants present in this sample included 220 mg/kg of TPHg, 8,000 mg/kg of TPHd, 5,500 mg/kg of TPHmo, and 4-isopropyltoluene (650 ug/kg),

isopropylbenzene (500 ug/kg), n-butylbenzene (1,900 ug/kg), n-propylbenzene (800 ug/kg), and naphthalene (12,000 ug/kg).

The laboratory reported that the majority of the detected concentrations of TPHd and TPHmo did not match the diesel or motor oil pattern; however the quantitation is based on the respective diesel or motor oil standard.

5.1.2 Organochlorine Pesticides and PCBs

A total of 132 soil samples were analyzed for organochlorine pesticides and PCBs. Of the 132 soil samples subjected to laboratory analyses, pesticides were present in 17 samples and PCBs were present in four samples. The most common pesticide detected was DDT and its metabolites DDE and DDD. The cumulative concentration of DDT and its metabolites ranged from 4.5 ug/kg in sample W8E at the surface to 1,810 ug/kg in sample WB7L at 0.3 meters bgs.

Other pesticides detected included Endosulfan I present in three soil samples, with a maximum concentration of 320 ug/kg. Aldrin (4.4 ug/kg), beta-BHC (6.4 ug/kg), and delta-BHC (3.5 ug/kg) were all detected in one soil sample.

The PCBs detected included Aroclor 1254 at 370 ug/kg in EB12L at the surface; Aroclor 1260 at 65 ug/kg and 240 ug/kg in EB14L at 0.3 meters bgs and 1.52 meters bgs, respectively, and Aroclor 1262 at 45 ug/kg in W4RC at the surface.

5.1.3 Title 22 Metals and pH

A total of 138 discrete soil samples and 13 composite soil samples were analyzed for Title 22 metals. Title 22 metals were not detected at total concentrations greater than respective TTLC, with the exception of lead concentrations in 16 samples. Four metals (barium, chromium, copper, and lead) were present at concentrations exceeding 10 times their respective STLC value. Barium was present in a composite soil sample W3RA/C at 0.6 meters bgs at a concentration of 1,100 mg/kg. The discrete sample analytical results from borings A and C indicated that the respective barium concentration in each was 820 mg/kg and 72 mg/kg. Chromium was present in W4R at 1.5 meters bgs (60 mg/kg). Copper was present in the soil sample collected from EB14R at 1.5 meters bgs (790 mg/kg). Each of the soil samples that contained barium, chromium, and copper that exceeded 10 times the STLC were analyzed by the WET. None of the barium, chromium, and copper WET analytical results exceeded respective STLC values.

An additional 387 discrete soil samples and 72 composite soil samples were analyzed for total lead only. Thus, a total of 525 discrete and 85 composite soil samples have laboratory analytical results for

lead. Of the 525 discrete samples analyzed for lead, 136 had lead concentrations that were equal to or greater than 50 mg/kg and 16 that were equal to or greater than 1,000 mg/kg. A total of 98 WET analyses for lead were performed on discrete soil samples where total lead concentrations were greater than 50 mg/kg, of which, 45 of the analytical results demonstrated soluble lead concentrations that were equal to or greater than the STLC value for lead of 5.0 mg/L. A total of 38 TCLP analyses were performed for discrete samples where the total lead concentration exceeded 1,000 mg/kg and/or the WET result exceeded 5.0 mg/L; only two results exceeded the TCLP value for lead of 5 mg/L.

There were a total of 18 borings where discrete and composite samples were analyzed at similar depths. Comparison of the composite with the corresponding discrete sample results indicates that high concentrations in one or two of the samples caused some of the composite sample concentrations to exceed regulatory thresholds. This occurred at W7E, W3R, W3L, W5R, and W9L.

29 soil samples that had total lead concentrations greater than 50 mg/kg were analyzed for pH. The pH ranged from 5.34 to 9.05.

5.1.4 PAHs

A total of 120 discrete soil samples and 16 composite soil samples were analyzed for PAHs. Of the 120 soil samples analyzed for PAHs: 61 samples had detectable concentrations of PAHs above the respective laboratory reporting limit. Five samples contained concentrations of various PAHs that exceeded the respective UTS concentration including benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, chrysene, indeno(1,2,3-cd)pyrene, benzo(ghi)perylene, fluoranthene, naphthalene, phenanthrene, and pyrene. The PAH concentrations in all remaining soil samples were present at concentrations less than the UTSs and generally less than 1 mg/kg. The five boring locations that had detectable concentrations of PAHs greater than the UTSs are borings WB7L, EB8L, EB14R, W4R, and W5L.

5.2 Groundwater

A total of eight grab groundwater samples were collected and submitted for analysis. A summary of analytical test results for TPHg, TPHd, TPHmo, AHVOCs, and SVOCs is presented in Table 6. Petroleum hydrocarbon, VOCS, and SVOC distribution in groundwater is presented in Figure 7. A summary of analytical laboratory test results for dissolved Title 22 metals is presented in Table 7. A summary of analytical laboratory test results for PAHs is presented in Table 8. Copies of the laboratory reports are presented in Appendix C.

The Water Quality Control Plan for the San Francisco Bay Basin (Basin Plan), adopted by the California Regional Water Quality Control Board - San Francisco Bay Region on June 21, 1995, is the master policy document governing water quality regulation in the San Francisco Bay region. Water Quality Objectives (WQOs) for surface waters are presented in Section 3 of the Basin Plan.

The WQOs are divided into two categories, one for surface waters with salinity greater than 5 parts per thousand (ppt), and one for surface waters with salinity less than 5 ppt. Since groundwater generated during the construction activities would likely be discharged to the adjacent San Francisco Bay, the receiving water salinity would likely be greater than 5 ppt and therefore the first category will apply. The WQOs do not have concentration standards for petroleum hydrocarbons, VOCs and SVOCs for surface water bodies.

A total of three groundwater samples (EB13L, EB14R, and W5LC) were analyzed for dissolved Title 22 metals. The Title 22 dissolved metals arsenic, chromium, copper, lead, and nickel were present at concentrations exceeding the WQO for surface water exceeding a salinity of 5 ppt. While mercury was not detected above the laboratory reporting limit of 0.004 mg/L, the listed WQOs for the 4-day and 1-hour averages are 0.000025 mg/L and 0.0021 mg/L, respectively. Other dissolved metals were not detected at concentrations greater than the 4-day or 1-hour average WQOs.

TPHd was detected in each of the eight groundwater samples at concentrations ranging from 3.1 mg/L to 1,200 mg/L. TPHmo was analyzed for in one groundwater sample (W5LC) and detected at a concentration of 9.1 mg/L. TPHg was detected in five of the six samples analyzed for TPHg at concentrations ranging from 0.12 (EB7R) to 0.57 mg/L (W5LC). TPHg was reported by the laboratory as a gasoline range organic and reported that the samples where TPHg was reported contained hydrocarbons that are within the gasoline range, but do not match the gasoline pattern.

VOCs were present in one of the six groundwater samples analyzed (W5LC). The VOCs detected included benzene at 0.88 micrograms per liter (ug/L), xylenes at 2.40 ug/L, 1,2,4-trimethylbenzene at 6.3 ug/L, and naphthalene at 39 ug/L.

SVOCs were present in three of the eight samples analyzed for SVOCs. The maximum concentrations of SVOCs detected include 2-methylnaphthalene at 68 ug/L (W5LC), fluorene at 11 ug/L (W5LC), and phenanthrene at 93 ug/L (EB13L) were present.

6.0 CONCLUSIONS AND RECOMMENDATIONS

The soil samples collected from the subject site exhibited detectable concentrations of:

- AHVOCs (dichlorodifluoromethane, ethylbenzene and total xylenes in two samples, and 4-isopropyltoluene, isopropylbenzene, n-butylbenzene, n-propylbenzene, and naphthalene in one sample);
- PAHs at concentrations equal to or greater than the respective UTS concentrations.
- Organochlorine Pesticides (DDT, DDE, and DDD, Endosulfan I, Aldrin, beta-BHC, and delta-BHC);
- PCBs (Aroclors 1254, 1260, and 1262);
- TPHg, TPHd and TPHmo; and
- Title 22 metals.

The groundwater samples collected from the subject site exhibited detectable concentrations of:

- TPHg, TPHd and TPHmo;
- VOCs;
- SVOCs; and
- Dissolved Title 22 metals - arsenic, chromium, copper, lead and nickel were each detected at concentrations exceeding the respective WQOs.

The following conclusions are presented based on a site wide distribution of contaminants of concern.

6.1 Petroleum Hydrocarbons and AHVOCs in Soil

TPHmo and TPHd were detected in soil samples throughout the site. The laboratory analytical data indicated that the reported TPHmo and TPHd often were hydrocarbons that fall within the diesel and/or motor oil range but do not match either chromatographic pattern. It is likely that some of the hydrocarbon compounds detected were not petroleum based. However, distinct TPHmo and TPHd contaminants were present in soil samples collected from borings located at Bents EB6R, EB7L, EB7R, EB8L (each in the vicinity of Building 270), EB13L, EB14R (in the vicinity of the waste water lift station, and W5LC (in the vicinity of Building 213). TPHg was detected in 7 of 121 soil samples collected from borings in the vicinity of building 270 (EB6R) and near the area of the former waste water lift station (EB13L and EB14R) at concentrations that ranged from 5.4 mg/kg to 2,200 mg/kg.

The range of TPHd concentrations in the vicinity of Building 270, Building 213, and the former waste water lift station was from 4.8 mg/kg to 15,000 mg/kg, and the range of TPHmo concentrations was

from 3.2 mg/kg to 9,700 mg/kg. Typically the higher concentrations of TPHmo and TPHd were present in soil samples that were collected near the soil/water interface. Contaminant concentrations (if present) in the shallow soil samples collected from above the soil-water interface were not indicative of a source area. Thus, high concentrations of TPHd and TPHmo in soil at the soil/water interface are most likely resulting from a smearing effect from impacted groundwater.

TPHg was reported in soil samples that contained high concentrations of TPHd (those Bent locations identified above), and AHVOCs were detected at low concentrations only in the presence of TPHg.

One soil sample was collected from boring W5LC at the soil water interface (9.1 meter bgs). Contaminants present in this sample included 220 mg/kg of TPHg, 8,000 mg/kg of TPHd, 5,500 mg/kg of TPHmo, 4-isopropyltoluene (650 ug/kg), isopropylbenzene (500 ug/kg), n-butylbenzene (1,900 ug/kg), n-propylbenzene (800 ug/kg), and naphthalene (12,000 ug/kg). No other boring in the vicinity of Bent W5L was advanced to the soil water interface; however, it is likely that soil conditions at other Bents in the vicinity will be of similar quality.

Due to the depth of the potential petroleum-contaminated soil on most of the site, these contaminants would only be encountered during pile installation. However, excavations for some pile caps at lower elevations of the site near Building 270 and the former waste water lift station may also be of sufficient depth to encounter petroleum-contaminated soil. These soils should be removed from the site to an appropriate landfill or treated prior to reuse. The foundations affected potentially extend from Bent W7 to Bent W4 on the transition structure alignment and from Bent EB4 to Bent EB17 and from Bent WB13 to Bent WB18 on the detour structure alignment.

6.2 Organochlorine Pesticides and PCBs in Soil

A total of 132 soil samples were analyzed for organochlorine pesticides and PCBs, of which, pesticides were present in 17 samples and PCBs were present in 4 samples.

The pesticides detected included DDT and its metabolites DDE and DDD, Endosulfan I, Aldrin, beta-BHC, and delta-BHC. DDT was the only pesticide detected at a concentration greater than its respective UTS. The UTS for DDT is 870 ug/kg and the maximum DDT concentration was 1,100 ug/kg in sample WB7L at 0.3 meters bgs. This was the only DDT detection greater than the UTS.

Pesticide concentrations exceeded TTLC in only one sample (WB7L at 0.3 meters bgs). The TTLC for DDT and its metabolites is 1,000 ug/kg. The cumulative DDT and metabolite concentration in sample WB7L at 0.3 meters is 1,810 ug/kg. Widespread accumulations of pesticides are not indicated by the analysis results. However, excavated material represented by sample WB7L at 0.3 meters bgs

would be characterized as non-RCRA hazardous. Since the concentrations of DDT, DDE, and DDD are less than 10 times the respective UTS, treatment prior to land disposal is not required.

The PCB Aroclors detected in soil were present at concentrations less than the respective TTLCs and UTSSs.

6.3 Title 22 Metals and pH in Soil

A total of 138 discrete soil samples and 13 composite soil samples were analyzed for Title 22 metals, and an additional 387 discrete and 72 composite soil samples were analyzed for total lead only. Thus, 525 lead analytical results were obtained from discrete soil samples. Title 22 Metals were not detected at total concentrations greater than respective TTLC values, except lead; and metals with concentrations that exceeded 10 times the STLC included barium, chromium, copper, and lead. The barium, chromium, and copper values that exceeded 10 times the STLC were each present in one respective discrete soil sample at boring location EB14R. Lead concentrations in discrete soil samples that exceeded the TTLC or 10 times the STLC were present in 152 soil samples.

- The soluble barium, chromium, and copper concentrations did not exceed their respective STLC values.
- A total of 525 discrete soil samples and 85 composite soil samples were analyzed for total lead. Of the 525 discrete samples analyzed for lead, 136 had lead concentrations that were equal to or greater than 50 mg/kg and 16 that were equal to or greater than 1,000 mg/kg. A total of 98 WET analyses for lead were performed on discrete soil samples where lead concentrations were greater than 50 mg/kg, of which, 45 of the analytical results demonstrated soluble lead concentrations that were equal to or greater than the STLC value for lead of 5.0 mg/L. A total of 38 TCLP analyses were performed for discrete soil samples where the total lead concentration exceeded 1,000 mg/kg and/or the WET result exceeded 5.0 mg/L, and only two results exceeded the TCLP value for lead of 5 mg/L. A statistical analysis for the lead data was performed for discrete samples across the entire site. Calculated 90% UCLs for the total lead means ranged from 453 mg/kg at the surface to 69 mg/kg at 0.6 meter bgs. The statistical analysis is included as Appendix D.
- 29 soil samples that had total lead concentrations greater than 50 mg/kg were analyzed for pH. The pH ranged from 5.34 to 9.05.

Lead was the only metal detected at concentrations above regulatory thresholds. Concentrations that exceed typical naturally occurring levels are generally confined to unpaved areas within 0.9 meters bgs. The exception to this trend is within the area of the former wastewater lift station (IR Site 11) where higher concentrations were detected at depths of 1.5 and 3.4 meters. With the exception of the contaminated material at locations EB14R and EB15L (adjacent to the former waste water lift station), excavated material with lead contamination would be characterized as non-RCRA hazardous.

Excavated material with lead contamination at locations EB14R and EB15L would be characterized as RCRA hazardous.

There were a total of 18 borings where discrete and composite samples were analyzed at similar depths for total lead. Comparison of the composite with the corresponding discrete sample results indicates that high concentrations in one or two of the samples caused some of the composite sample concentrations to exceed regulatory thresholds. This occurred at W7E, W3R, W3L, W5R, and W9L.

Discrete sample analysis performed at locations where composite samples were analyzed indicate that segregating excavated materials within paved and unpaved areas at Pier W5R will result in the characterization of less material as non-RCRA hazardous.

6.4 PAHs

A total of 120 discrete soil samples and 16 composite soil samples were analyzed for PAHs. Of the 120 discrete soil samples analyzed for PAHs: 59 samples had non-detectable concentrations and 61 samples had detectable concentrations of PAHs above the respective laboratory reporting limit, with five samples containing concentrations of various PAHs that exceeded respective UTS. None of the PAH concentrations that exceeded the UTSs were present at concentrations greater than 10 times the respective UTS; thus, there should be no LDRs for soil containing PAHs. Composite soil sample results indicated that PAHs detected were less than the UTS. The PAH concentrations in all remaining soil samples were present at concentrations less than the UTSs and generally less than 1 mg/kg. The five boring locations that had detectable concentrations of PAHs greater than the UTSs are borings WB7L, EB8L, EB14R, W4R, and W5LC.

6.5 Groundwater

Groundwater was encountered in eight boreholes locations (EB6R, EB7L, EB8L, EB9L, EB10R, EB13L, EB14R, and W5L). TPHd was present in groundwater at all sampled locations. The areas where groundwater was encountered include the following:

- Eastbound detour Bents in the vicinity of and within the influence of the former diesel UST release at Building 270 (EB6R, EB7R, EB8L, EB9L, and EB10R),
- In the vicinity of the former waste water lift station (EB13L and EB14R), and
- In the vicinity of Building 213 the current fire station for YBI and Treasure Island (W5L).

Borings W4LC and W4LD were advanced to approximately 6 meters bgs to bedrock and saturated conditions were not encountered; however, petroleum hydrocarbon odors were noted in soil immediately above the termination depths where it was not present in the soil profile above that point. The odor at depth indicates that TPHd impacted groundwater has had a historical presence in the area

of exploration. It is possible that TPHd impacted groundwater encountered near Building 213 may be connected to the historical groundwater impacts in the vicinity of borings W4LC and W4LD; thus, demonstrating a diesel plume that may impact other Bents in the vicinity.

TPHd concentrations ranged from 3.1 mg/L (EB9L) to 1,200 mg/L (EB7R). TPHg was also present in five of the six groundwater samples analyzed at concentrations that ranged from 0.12 mg/L (EB7R) to 0.57 mg/L (W5LC); however, the laboratory reported the TPHg as gasoline range organics and indicated that where TPHg was detected, hydrocarbons were within the gasoline range, but do not match the gasoline pattern.

VOCs were only present in one groundwater sample (W5LC) and were inclusive of benzene (0.88 ug/L), total xylenes (2.14 ug/L), 1,2,4-trimethylbenzene (6.3 ug/L), and naphthalene (39 ug/L). SVOCs were present in three of the eight samples analyzed (EB8L, EB13L, and W5LC) inclusive of 2-methylnaphthalene (max. 68 ug/L), phenanthrene (max. 93 ug/L), and fluorene (max. 11 ug/L). The compounds 2-methylnaphthalene and phenanthrene are also classified as PAHs. The WQO for PAHs is a cumulative total for all PAHs with no target concentrations for specific PAHs. Thus, the WQO for cumulative PAH is 15 ug/L. Therefore groundwater in the vicinity of EB8L, EB13L, and W5LC have PAH concentrations that exceed the WQOs.

The groundwater analyses indicate widespread petroleum contamination affecting a large portion of the project area, potentially extending from Bent W7 to Bent W4 on the transition structure alignment and from Bent EB4 to Bent EB15 and from Bent WB13 to Bent WB18 of the detour structure alignment.

The Title 22 dissolved metals were analyzed for in three samples from Bents W5L, EB13L and EB14R. Title 22 metals arsenic, chromium, copper, lead, and nickel, are present at concentrations exceeding the WQOs for surface water with a salinity greater than 5 ppt. Mercury was not detected above the laboratory reporting limit, of 0.004 mg/L, however the listed WQOs for the 4-day and 1-hour averages are 0.000025 mg/L and 0.0021 mg/L, respectively. Therefore, mercury concentrations could not be compared with its WQOs. Other dissolved metals were not detected at concentrations greater than the 4-day or 1-hour average WQOs.

If dewatering is to be conducted during construction activities, then it is recommended that confirmation sampling of groundwater from the excavation be performed before dewatering operations commence. If elevated results are confirmed, then the discharge must be managed such that it will conform to Basin Plan WQOs or conditions of applicable general permits for groundwater discharges.

In addition, at locations where pile installation will involve passing through more than one water-bearing zone, the pile type or installation technique should result in isolation of the pile excavation from the impacted groundwater.

Based on groundwater analytical data, groundwater encountered during construction may require treatment for elevated metals, TPHg, TPHd, and TPHmo. Granular activated carbon filtration would be the recommended treatment method for petroleum hydrocarbons. Geocon recommends that, when practical, engineering controls should be utilized to minimize the volume of extracted groundwater.

The highest metal concentration was 4.1 mg/L of lead at location EB14R, which coincides with an unusually high soluble lead concentration in the soil sample. Further investigation may be warranted at this location to determine the nature of the lead compounds present.

TABLE 1
SUMMARY OF SAMPLE LOCATIONS
SFOBB EAST SPAN - YERBA BUENA ISLAND

| Bent | Sample Location | Northing (m) | Easting (m) | Target Depth (m) | Target Depth (ft) | Sampling Method |
|------------------|------------------------|---------------------|--------------------|-------------------------|--------------------------|------------------------|
| <i>WB Detour</i> | | | | | | |
| WB1 | WB1 | 647,126.6 | 1,835,845.5 | 5.8 | 19 | DP |
| WB2 | WB2 | 647,134.1 | 1,835,850.7 | 5.2 | 17 | DP |
| WB3 | WB3 | 647,144.6 | 1,835,857.6 | 4.0 | 13 | DP |
| WB4 | WB4 | 647,159.1 | 1,835,869.5 | 2.4 | 8 | DP |
| WB5L | WB5L | 647,183.2 | 1,835,877.5 | 1.5 | 5 | DP |
| WB5R | WB5R | 647,178.1 | 1,835,887.5 | 1.2 | 4 | DP |
| WB6L | WB6L | 647,205.6 | 1,835,888.1 | 1.8 | 6 | DP |
| WB6R | WB6R | 647,200.6 | 1,835,898.3 | 1.5 | 5 | DP |
| WB7L | WB7L | 647,227.9 | 1,835,900.3 | 1.8 | 6 | HA |
| WB7R | WB7R | 647,222.1 | 1,835,910.0 | 1.8 | 6 | HA |
| WB8L | WB8L | 647,249.4 | 1,835,914.3 | 2.1 | 7 | HA |
| WB8R | WB8R | 647,242.8 | 1,835,923.5 | 1.5 | 5 | HA |
| WB9L | WB9L | 647,265.5 | 1,835,926.4 | 2.4 | 8 | HA |
| WB9R | WB9R | 647,258.1 | 1,835,935.4 | 1.8 | 6 | HA |
| WB10L | WB10L | 647,280.8 | 1,835,939.3 | 2.4 | 8 | HA |
| WB10R | WB10R | 647,273.7 | 1,835,948.0 | 2.4 | 8 | HA |
| WB11L | WB11L | 647,302.3 | 1,835,957.2 | 2.1 | 7 | HA |
| WB11R | WB11R | 647,295.2 | 1,835,966.0 | 1.8 | 6 | HA |
| WB12L | WB12L | 647,317.5 | 1,835,969.9 | 1.5 | 5 | HA |
| WB12R | WB12R | 647,310.7 | 1,835,978.8 | 1.5 | 5 | HA |
| WB13L | WB13L | 647,333.1 | 1,835,982.9 | 1.5 | 5 | DP |
| WB13R | WB13R | 647,325.8 | 1,835,991.4 | 1.5 | 5 | DP |
| WB14L | WB14L | 647,348.5 | 1,835,995.6 | 1.5 | 5 | DP |
| WB14R | WB14R | 647,341.3 | 1,836,004.5 | 1.2 | 4 | DP |
| WB15L | WB15L | 647,367.3 | 1,836,012.6 | 1.8 | 6 | DP |
| WB15R | WB15R | 647,359.3 | 1,836,020.8 | 1.8 | 6 | DP |
| WB16L | WB16L | 647,385.1 | 1,836,031.1 | 4.3 | 14 | DP |
| WB16R | WB16R | 647,375.9 | 1,836,038.4 | 4.6 | 15 | DP |
| WB17L | WB17L | 647,405.5 | 1,836,057.8 | 1.5 | 5 | DP |
| WB17R | WB17R | 647,396.2 | 1,836,064.1 | 1.5 | 5 | DP |
| WB18L | WB18L | 647,419.6 | 1,836,079.4 | 1.8 | 6 | HA |
| WB18R | WB18R | 647,415.1 | 1,836,082.3 | 1.8 | 6 | HA |
| WB19L | WB19L | 647,436.8 | 1,836,097.6 | 2.4 | 8 | HA |
| WB19R | WB19R | 647,432.2 | 1,836,101.1 | 2.4 | 8 | HA |
| WB20 | WB20 | 647,449.5 | 1,836,119.7 | 2.1 | 7 | HA |
| WB21 | WB21 | 647,461.9 | 1,836,135.0 | 1.2 | 4 | DP |
| WB22 | WB22 | 647,474.7 | 1,836,150.7 | 1.5 | 5 | DP |

TABLE 1
SUMMARY OF SAMPLE LOCATIONS
SFOBB EAST SPAN - YERBA BUENA ISLAND

| Bent | Sample Location | Northing (m) | Easting (m) | Target Depth (m) | Target Depth (ft) | Sampling Method |
|------------------|------------------------|---------------------|--------------------|-------------------------|--------------------------|------------------------|
| <i>EB Detour</i> | | | | | | |
| EB2L | EB2L | 647,155.4 | 1,835,940.8 | 2.4 | 8 | HA |
| EB2C | EB2C | 647,146.2 | 1,835,946.7 | 2.4 | 8 | HA |
| EB2R | EB2R | 647,137.4 | 1,835,951.1 | 2.4 | 8 | HA |
| EB3L | EB3L | 647,169.0 | 1,835,962.2 | 2.4 | 8 | HA |
| EB3C | EB3C | 647,159.4 | 1,835,968.3 | 2.4 | 8 | HA |
| EB3R | EB3R | 647,151.7 | 1,835,973.6 | 2.4 | 8 | HA |
| EB4L | EB4L | 647,182.7 | 1,835,981.2 | 2.4 | 8 | HA |
| EB4C | EB4C | 647,174.6 | 1,835,988.1 | 3.7 | 12 | DP |
| EB4R | EB4R | 647,168.0 | 1,835,993.4 | 3.7 | 12 | DP |
| EB5L | EB5L | 647,206.9 | 1,836,007.8 | 4.9 | 16 | DP |
| EB5C | EB5C | 647,199.5 | 1,836,015.3 | 0.6 | 2 | DP |
| EB5R | EB5R | 647,194.6 | 1,836,020.8 | 1.2 | 4 | DP |
| EB6L | EB6L | 647,230.1 | 1,836,028.6 | 2.4 | 8 | DP |
| EB6R | EB6R | 647,220.9 | 1,836,041.6 | 1.2 | 4 | DP |
| EB7L | EB7L | 647,255.6 | 1,836,048.8 | 1.5 | 5 | DP |
| EB7R | EB7R | 647,246.5 | 1,836,060.5 | 1.5 | 5 | DP |
| EB8L | EB8L | 647,271.2 | 1,836,061.2 | 1.2 | 4 | DP |
| EB8R | EB8R | 647,262.4 | 1,836,071.6 | 0.9 | 3 | DP |
| EB9L | EB9L | 647,286.7 | 1,836,073.7 | 2.1 | 7 | DP |
| EB9R | EB9R | 647,278.7 | 1,836,084.3 | 1.5 | 5 | DP |
| EB10L | EB10L | 647,306.3 | 1,836,089.3 | 3.7 | 12 | HA |
| EB10R | EB10R | 647,298.7 | 1,836,098.6 | 2.4 | 8 | DP |
| EB11L | EB11L | 647,331.7 | 1,836,108.7 | 2.1 | 7 | DP |
| EB11R | EB11R | 647,324.4 | 1,836,118.0 | 3.4 | 11 | HA |
| EB12L | EB12L | 647,351.3 | 1,836,124.4 | 1.5 | 5 | DP |
| EB12R | EB12R | 647,344.2 | 1,836,133.2 | 1.5 | 5 | HA |
| EB13L | EB13L | 647,367.0 | 1,836,137.0 | 3.4 | 11 | HA |
| EB13R | EB13R | 647,359.6 | 1,836,145.4 | 1.5 | 5 | HA |
| EB14L | EB14L | 647,382.0 | 1,836,150.7 | 1.5 | 5 | DP |
| EB14R | EB14R | 647,374.1 | 1,836,158.7 | 0.9 | 3 | DP |
| EB15L | EB15L | 647,394.8 | 1,836,173.4 | 2.1 | 7 | HA |
| EB15R | EB15R | 647,389.9 | 1,836,177.5 | 1.8 | 6 | HA |
| EB16 | EB16 | 647,402.4 | 1,836,192.2 | 1.2 | 4 | DP |
| EB17 | EB17 | 647,413.4 | 1,836,214.4 | 2.1 | 7 | DP |

TABLE 1
SUMMARY OF SAMPLE LOCATIONS
SFOBB EAST SPAN - YERBA BUENA ISLAND

| Bent | Sample Location | Northing (m) | Easting (m) | Target Depth (m) | Target Depth (ft) | Sampling Method |
|---------------------------------------|------------------------|---------------------|--------------------|-------------------------|--------------------------|------------------------|
| <i>Transition Structure EB Onramp</i> | | | | | | |
| | W7E | | | 3.0 | 10 | |
| | W7EA | 647,234.2 | 1,835,997.1 | | | DP |
| | W7EB | 647,243.9 | 1,836,005.3 | | | DP |
| | W7EC | 647,231.4 | 1,836,000.2 | | | DP |
| | W7ED | 647,241.0 | 1,836,008.8 | | | DP |
| | W8E | | | 9.8 | 32 | |
| | W8EA | 647,205.2 | 1,835,974.6 | | | HA |
| | W8EB | 647,215.0 | 1,835,983.2 | | | HA |
| | W8EC | 647,202.2 | 1,835,977.7 | | | HA |
| | W8ED | 647,212.0 | 1,835,986.1 | | | HA |
| | W9E | | | 6.7 | 22 | |
| | W9EA | 647,180.0 | 1,835,956.1 | | | HA |
| | W9EB | 647,189.3 | 1,835,964.3 | | | HA |
| | W9EC | 647,177.4 | 1,835,958.6 | | | HA |
| | W9ED | 647,186.6 | 1,835,967.1 | | | HA |
| | W10E | | | 7.3 | 24 | |
| | W10EA | 647,161.2 | 1,835,941.5 | | | HA |
| | W10EB | 647,166.2 | 1,835,945.4 | | | HA |
| | W10EC | 647,156.9 | 1,835,946.2 | | | HA |
| | W10ED | 647,161.9 | 1,835,950.5 | | | HA |

TABLE 1
SUMMARY OF SAMPLE LOCATIONS
SFOBB EAST SPAN - YERBA BUENA ISLAND

| Bent | Sample Location | Northing (m) | Easting (m) | Target Depth (m) | Target Depth (ft) | Sampling Method | |
|-----------------------------|------------------------|---------------------|--------------------|-------------------------|--------------------------|------------------------|----|
| <i>Transition Structure</i> | | | | | | | |
| | W2L | | | 15.2 | 50 | | |
| | W2LA | 647,510.9 | 1,836,205.3 | | | HA | |
| | W2LB | 647,522.0 | 1,836,221.0 | | | HA | |
| | W2LC | 647,495.4 | 1,836,216.2 | | | DP | |
| | W2LD | 647,506.4 | 1,836,231.3 | | | DP | |
| | W2R | | | 12.2 | 40 | | |
| | W2RA | 647,476.4 | 1,836,229.2 | | | DP | |
| | W2RB | 647,486.9 | 1,836,245.1 | | | DP | |
| | W2RC | 647,461.0 | 1,836,239.9 | | | DP | |
| | W2RD | 647,471.5 | 1,836,255.5 | | | DP | |
| | W3L | | | 3.4 | 11 | | |
| | W3LA | 647,463.5 | 1,836,145.3 | | | DP | |
| | W3LB | 647,470.1 | 1,836,153.1 | | | DP | |
| | W3LC | 647,450.4 | 1,836,156.3 | | | DP | |
| | W3LD | 647,456.7 | 1,836,164.3 | | | DP | |
| | W3R | | | 3.0 | 10 | | |
| | W3RA | 647,432.2 | 1,836,169.5 | | | DP | |
| | W3RB | 647,438.5 | 1,836,177.4 | | | DP | |
| | W3RC | 647,418.6 | 1,836,179.6 | | | HA | |
| | W3RD | 647,424.8 | 1,836,187.8 | | | HA | |
| | W4L | | | 5.5 | 18 | | |
| | W4LA | 647,412.5 | 1,836,089.7 | | | HA | |
| | W4LB | 647,419.9 | 1,836,096.8 | | | HA | |
| | W4LC | 647,400.4 | 1,836,101.8 | | | DP | |
| | W4LD | 647,407.3 | 1,836,109.2 | | | DP | |
| | W4R | | | 7.3 | 24 | | |
| | W4RA | 647,386.5 | 1,836,111.8 | | | HA | |
| | W4RB | 647,393.2 | 1,836,119.9 | | | HA | |
| | W4RC | 647,373.5 | 1,836,123.1 | | | HA | |
| | W4RD | 647,380.0 | 1,836,130.8 | | | HA | |
| | W5AL | W5AL | 647,372.5 | 1,836,072.9 | 3.0 | 10 | DP |
| | W5AR | W5AR | 647,382.5 | 1,836,062.4 | 3.4 | 11 | DP |

TABLE 1
SUMMARY OF SAMPLE LOCATIONS
SFOBB EAST SPAN - YERBA BUENA ISLAND

| Bent | Sample Location | Northing (m) | Easting (m) | Target Depth (m) | Target Depth (ft) | Sampling Method |
|-------------|------------------------|---------------------|--------------------|-------------------------|--------------------------|------------------------|
| W5L | W5LA | 647,360.8 | 1,836,041.5 | 3.7 | 12 | DP |
| | W5LB | 647,369.1 | 1,836,048.7 | | | DP |
| | W5LC | 647,349.5 | 1,836,054.4 | | | DP |
| | W5LD | | | | | DP |
| W5R | W5RA | 647,341.5 | 1,836,059.3 | 4.3 | 14 | DP |
| | W5RB | 647,350.1 | 1,836,068.6 | | | DP |
| | W5RC | 647,325.5 | 1,836,074.1 | | | DP |
| | W5RD | 647,333.7 | 1,836,083.0 | | | DP |
| W6L | W6LA | 647,307.7 | 1,836,000.1 | 2.7 | 9 | DP |
| | W6LB | 647,320.1 | 1,836,009.6 | | | DP |
| | W6LC | 647,298.6 | 1,836,012.5 | | | DP |
| | W6LD | 647,310.9 | 1,836,021.9 | | | DP |
| W6C | W6CA | 647,293.5 | 1,836,015.5 | 3.7 | 12 | DP |
| | W6CB | 647,304.5 | 1,836,026.8 | | | DP |
| | W6CC | 647,287.0 | 1,836,022.2 | | | DP |
| | W6CD | 647,297.7 | 1,836,033.4 | | | DP |
| W6R | W6RA | 647,285.1 | 1,836,026.9 | 8.5 | 28 | DP |
| | W6RB | 647,293.4 | 1,836,035.0 | | | DP |
| | W6RC | 647,282.0 | 1,836,030.1 | | | DP |
| | W6RD | 647,290.1 | 1,836,038.3 | | | DP |
| W7L | W7LA | 647,262.1 | 1,835,966.5 | 4.3 | 14 | HA |
| | W7LB | 647,271.2 | 1,835,974.3 | | | HA |
| | W7LC | 647,257.9 | 1,835,971.0 | | | HA |
| | W7LD | 647,267.1 | 1,835,979.0 | | | HA |
| W7C | W7CA | 647,253.6 | 1,835,976.4 | 0.3 | 1 | HA |
| | W7CB | 647,262.2 | 1,835,983.9 | | | HA |
| | W7CC | 647,246.4 | 1,835,984.5 | | | HA |
| | W7CD | 647,254.9 | 1,835,992.3 | | | HA |

TABLE 1
SUMMARY OF SAMPLE LOCATIONS
SFOBB EAST SPAN - YERBA BUENA ISLAND

| Bent | Sample Location | Northing (m) | Easting (m) | Target Depth (m) | Target Depth (ft) | Sampling Method |
|-------------|------------------------|---------------------|--------------------|-------------------------|--------------------------|------------------------|
| W7R | W7RA | 647,242.0 | 1,835,989.3 | 5.8 | 19 | HA |
| | W7RB | 647,250.7 | 1,835,997.1 | | | HA |
| | W7RC | 647,238.2 | 1,835,993.5 | | | HA |
| | W7RD | 647,247.1 | 1,836,001.3 | | | DP |
| W8L | W8LA | 647,234.9 | 1,835,941.0 | 5.2 | 17 | HA |
| | W8LB | 647,244.6 | 1,835,949.7 | | | HA |
| | W8LC | 647,230.5 | 1,835,946.4 | | | HA |
| | W8LD | 647,239.9 | 1,835,954.8 | | | HA |
| W8C | W8CA | 647,226.3 | 1,835,951.4 | 0.3 | 1 | HA |
| | W8CB | 647,235.7 | 1,835,959.5 | | | HA |
| | W8CC | 647,219.1 | 1,835,959.9 | | | HA |
| | W8CD | 647,227.9 | 1,835,967.7 | | | HA |
| W8R | W8RA | 647,214.3 | 1,835,965.0 | 8.2 | 27 | HA |
| | W8RB | 647,223.3 | 1,835,973.0 | | | HA |
| | W8RC | 647,210.6 | 1,835,969.6 | | | HA |
| | W8RD | 647,219.3 | 1,835,977.4 | | | HA |
| W9L | W9LA | 647,211.1 | 1,835,920.7 | 3.4 | 11 | DP |
| | W9LB | 647,220.5 | 1,835,929.0 | | | DP |
| | W9LC | 647,206.7 | 1,835,925.8 | | | DP |
| | W9LD | 647,216.0 | 1,835,934.2 | | | DP |
| W9C | W9CA | 647,202.9 | 1,835,930.0 | 3.7 | 12 | HA |
| | W9CB | 647,212.1 | 1,835,938.4 | | | HA |
| | W9CC | 647,195.0 | 1,835,939.0 | | | HA |
| | W9CD | 647,204.4 | 1,835,947.1 | | | HA |
| W9R | W9RA | 647,190.6 | 1,835,944.1 | 6.7 | 22 | HA |
| | W9RB | 647,200.0 | 1,835,952.2 | | | HA |
| | W9RC | 647,186.3 | 1,835,948.6 | | | HA |
| | W9RD | 647,195.8 | 1,835,956.9 | | | HA |

TABLE 1
SUMMARY OF SAMPLE LOCATIONS
SFOBB EAST SPAN - YERBA BUENA ISLAND

| Bent | Sample Location | Northing (m) | Easting (m) | Target Depth (m) | Target Depth (ft) | Sampling Method |
|-------------|------------------------|---------------------|--------------------|-------------------------|--------------------------|------------------------|
| W10L | W10LA | 647,192.5 | 1,835,906.3 | 5.5 | 18 | DP |
| | W10LB | 647,197.4 | 1,835,910.5 | | | DP |
| | W10LC | 647,188.3 | 1,835,910.9 | | | DP |
| | W10LD | 647,193.0 | 1,835,915.1 | | | DP |
| W10C | W10CA | 647,185.1 | 1,835,914.9 | 3.0 | 10 | HA |
| | W10CB | 647,189.8 | 1,835,918.9 | | | HA |
| | W10CC | 647,177.3 | 1,835,923.4 | | | HA |
| | W10CD | 647,182.1 | 1,835,927.5 | | | HA |
| W10R | W10RA | 647,173.1 | 1,835,928.3 | 0.6 | 2 | DP |
| | W10RB | 647,178.0 | 1,835,932.4 | | | DP |
| | W10RC | 647,169.0 | 1,835,932.8 | | | DP |
| | W10RD | 647,173.9 | 1,835,937.0 | | | HA |
| W10AL | W10ALA | 647,176.2 | 1,835,893.5 | 6.7 | 22 | DP |
| | W10ALB | 647,179.7 | 1,835,896.5 | | | DP |
| | W10ALC | 647,172.0 | 1,835,898.2 | | | DP |
| | W10ALD | 647,175.5 | 1,835,900.8 | | | DP |
| W11R | W11RA | 647,157.6 | 1,835,914.4 | 9.8 | 32 | HA |
| | W11RB | 647,161.3 | 1,835,917.7 | | | HA |
| | W11RC | 647,153.4 | 1,835,919.1 | | | HA |
| | W11RD | 647,156.9 | 1,835,922.5 | | | DP |

Notes:

Northing and Easting coordinates relative to North American Datum 1983 (NAD83)
m = meters
HA = Hand-Auger
DP = Direct=Push

TABLE 2
SUMMARY OF TPHg, TPHd, TPHmo, AHVOCs, PESTICIDES, AND PCBs
ANALYTICAL RESULTS - SOIL
SFOBB EAST SPAN ON YERBA BUENA ISLAND IN SAN FRANCISCO COUNTY

| Sample ID | Boring ID | Sample Depth (meters) | TPHg (mg/kg) | TPHd (mg/kg) | TPHmo (mg/kg) | AHVOCs (µg/kg) | Chlorinated Pesticides (µg/kg) | PCBs (µg/kg) |
|-----------------------------------|-----------|-----------------------|--------------|--------------|---------------|---------------------------------|---|--------------|
| <i>Westbound Detour Structure</i> | | | | | | | | |
| WB2 | WB2 | 0 | --- | --- | --- | --- | --- | --- |
| | WB2 | 0.3 | --- | --- | --- | --- | --- | ND |
| | WB2 | 0.6 | --- | --- | --- | --- | --- | ND |
| | WB2 | 0.9 | --- | --- | --- | --- | --- | ND |
| WB3 | WB3 | 0.3 | <1.0 | <1.0 | <1.0 | <50 | ND | ND |
| | WB3 | 0.6 | <1.0 | <1.0 | --- | <50 | ND | ND |
| | WB3 | 0.9 | <1.0 | <1.0 | <1.0 | <50 | ND | ND |
| | WB3 | 1.5 | <1.0 | <1.0 | <1.0 | <50 | ND | ND |
| WB5R | WB5R | 0.3 | <1.0 | 16** | --- | <50 | ND | ND |
| | WB5R | 0.6 | <1.0 | 4.3** | 5.9 | <50 | ND | ND |
| | WB5R | 0.9 | <1.0 | 2.7** | --- | <50 | ND | ND |
| | WB5R | 1.2 | <1.0 | 2.0** | 2.6 | <50 | ND | ND |
| WB7L | WB7L | 0 | --- | 18** | --- | --- | 4,4-DDD=47 4,4-DDE=300 4,4-DDT=440 | ND |
| | WB7L | 0.3 | <1.0 | 210* | 330* | <50 | 4,4-DDD=180 4,4-DDE=530 4,4-DDT=1,100 | ND |
| WB9R | WB9R | 0 | --- | 83 | --- | --- | ND | ND |
| | WB9R | 0.3 | <1.0 | 430 | 640 | <50 | ND | ND |
| | WB9R | 0.6 | <1.0 | 4.6 | --- | <50 | ND | ND |
| | WB9R | 0.9 | <1.0 | 6.5 | 11 | dichlorodifluoro- methane=50 | ND | ND |
| | WB9R | 1.5 | <1.0 | 11 | 19 | <50 | ND | ND |
| WB11L | WB11L | 0 | --- | 56** | --- | --- | 4,4-DDT=35 | ND |
| | WB11L | 0.3 | <1.0 | 2.8* | 3.0* | ND | ND | ND |
| | WB11L | 0.6 | <1.0 | <1.0 | --- | ND | ND | ND |
| | WB11L | 0.9 | <1.0 | <1.0 | <1.0 | ND | ND | ND |
| | WB11L | 1.5 | <1.0 | <1.0 | <1.0 | dichlorodifluoro- methane=50 | ND | ND |
| WB13R | WB13R | 0 | --- | 550** | --- | --- | ND | ND |
| | WB13R | 0.3 | <1.0 | 17** | 39 | <50 | ND | ND |
| | WB13R | 0.6 | <1.0 | <1.0 | --- | <50 | ND | ND |
| | WB13R | 0.9 | <1.0 | <1.0 | <1.0 | <50 | ND | ND |
| | WB13R | 1.5 | <1.0 | <1.0 | <1.0 | <50 | ND | ND |

TABLE 2
SUMMARY OF TPHg, TPHd, TPHmo, AHVOCs, PESTICIDES, AND PCBs
ANALYTICAL RESULTS - SOIL
SFOBB EAST SPAN ON YERBA BUENA ISLAND IN SAN FRANCISCO COUNTY

| Sample ID | Boring ID | Sample Depth (meters) | TPHg (mg/kg) | TPHd (mg/kg) | TPHmo (mg/kg) | AHVOCs (µg/kg) | Chlorinated Pesticides (µg/kg) | PCBs (µg/kg) |
|-----------------------------------|-----------|-----------------------|--------------|--------------|---------------|---------------------------------|--------------------------------|--------------|
| WB15L | WB15L | 0 | --- | 280** | --- | <50 | ND | ND |
| | WB15L | 0.3 | <1.0 | <1.0 | --- | --- | ND | ND |
| | WB15L | 0.6 | <1.0 | <1.0 | --- | --- | ND | ND |
| | WB15L | 0.9 | <1.0 | <1.0 | <1.0 | <50 | ND | ND |
| WB17R | WB17R | 0.3 | <1.0 | <1.0 | <1.0 | <50 | ND | ND |
| | WB17R | 0.6 | <1.0 | <1.0 | --- | <50 | ND | ND |
| | WB17R | 0.9 | <1.0 | <1.0 | <1.0 | <50 | ND | ND |
| | WB17R | 1.5 | <1.0 | <1.0 | <1.0 | <50 | ND | ND |
| | WB17R | dup | --- | --- | --- | <50 | --- | --- |
| WB19L | WB19L | 0 | --- | 42 | --- | --- | --- | --- |
| | WB19L | 0.3 | <1.0 | 33* | 35* | <50 | --- | --- |
| | WB19L | 0.6 | <1.0 | 29 | --- | <50 | --- | --- |
| WB21 | WB21 | 0 | <1.0 | 18** | 35 | <50 | 4,4-DDE=5.5 4,4-DDT=9.9 | ND |
| | WB21 | 0.3 | <1.0 | 4.1** | 7.3 | <50 | ND | ND |
| WB22 | WB22 | 0 | --- | --- | --- | dichlorodifluoro- methane=50 | ND | ND |
| Eastbound Detour Structure | | | | | | | | |
| EB2L | EB2L | 0 | --- | 7.2** | --- | --- | ND | ND |
| | EB2L | 0.3 | <1.0 | 3.4** | 5.7 | <50 | ND | ND |
| | EB2L | 0.6 | <1.0 | 5.2** | --- | <50 | ND | ND |
| | EB2L | 0.9 | <1.0 | 4.6** | 8.6 | dichlorodifluoro- methane=50 | ND | ND |
| | EB2L | 1.5 | <1.0 | 2.4** | 4.4 | <50 | ND | ND |
| EB6R | EB6R | 0.3 | <1.0 | 22* | 35* | <50 | ND | ND |
| | EB6R | 0.6 | <1.0 | 5.0* | 11* | <50 | 4,4'-DDE=4.8 | ND |
| | EB6R | 0.9 | <1.0 | 110* | 92* | <50 | 4,4'-DDD=6.5 | ND |
| | EB6R | 1.5 | <1.0 | 13* | 14* | <50 | ND | ND |
| | EB6R | 2.4 | 90 | 850 | 650 | <50 | ND | ND |
| EB7L | EB7L | 0.3 | --- | 7.1 | --- | --- | --- | --- |
| | EB7L | 0.6 | --- | 10000 | --- | --- | --- | --- |
| | EB7L | 0.9 | --- | 11000 | --- | --- | --- | --- |

TABLE 2
SUMMARY OF TPHg, TPHd, TPHmo, AHVOCs, PESTICIDES, AND PCBs
ANALYTICAL RESULTS - SOIL
SFOBB EAST SPAN ON YERBA BUENA ISLAND IN SAN FRANCISCO COUNTY

| Sample ID | Boring ID | Sample Depth (meters) | TPHg (mg/kg) | TPHd (mg/kg) | TPHmo (mg/kg) | AHVOCs (µg/kg) | Chlorinated Pesticides (µg/kg) | PCBs (µg/kg) |
|-----------|-----------|-----------------------|--------------|--------------|---------------|----------------------------------|--------------------------------|--------------|
| EB7R | EB7R | 0 | --- | 5.1 | --- | --- | --- | --- |
| | EB7R | 0.3 | --- | 4.2 | --- | --- | --- | --- |
| | EB7R | 0.6 | --- | 120** | --- | --- | --- | --- |
| | EB7R | 0.9 | --- | 53** | --- | --- | --- | --- |
| | EB7R | 1.2 | --- | 210 | --- | --- | --- | --- |
| | EB7R | 1.5 | --- | 4500 | --- | --- | --- | --- |
| EB8L | EB8L | 0.3 | <1.0 | 7.2 | 4.7 | <50 | ND | ND |
| | EB8L | 0.6 | <1.0 | 4.8 | 3.2 | <50 | ND | ND |
| | EB8L | 0.9 | <1.0 | 16 | 12 | <50 | ND | ND |
| | EB8L | 1.2 | 2200 | 15000 | 8000 | Ethylbenzene=69 p,m-Xylene=59 | ND | ND |
| EB9L | EB9L | 0.3 | --- | <1.0 | --- | --- | --- | --- |
| | EB9L | 0.6 | --- | <1.0 | --- | --- | --- | --- |
| | EB9L | 0.9 | --- | <1.0 | --- | --- | --- | --- |
| | EB9L | 1.5 | --- | <1.0 | --- | --- | --- | --- |
| | EB9L | 2.1 | --- | 1700 | --- | --- | --- | --- |
| EB9R | EB9R | 0.3 | --- | <1.0 | --- | <50 | --- | --- |
| | EB9R | 0.6 | --- | 1.4 | --- | <50 | --- | --- |
| | EB9R | 0.9 | --- | 2.7** | --- | <50 | --- | --- |
| | EB9R | 1.5 | --- | <1.0 | --- | <50 | --- | --- |
| EB10L | EB10L | 0 | --- | 78** | --- | <50 | --- | --- |
| | EB10L | 0.3 | --- | 16** | --- | <50 | --- | --- |
| | EB10L | 0.6 | --- | 100** | --- | <50 | --- | --- |
| | EB10L | 0.9 | --- | 2.6** | --- | <50 | --- | --- |
| | EB10L | 1.5 | --- | 9.8** | --- | <50 | --- | --- |
| | EB10L | 3.0 | --- | 13** | --- | <50 | --- | --- |
| EB10R | EB10R | 0 | --- | 5.5** | --- | --- | ND | ND |
| | EB10R | 0.3 | <1.0 | 8.6** | 20 | <50 | ND | ND |
| | EB10R | 0.6 | <1.0 | 360** | --- | <50 | ND | ND |
| | EB10R | 0.9 | <1.0 | <1.0 | <1.0 | <50 | ND | ND |
| | EB10R | 1.5 | <1.0 | <1.0 | 2.4 | <50 | ND | ND |
| EB11L | EB11L | 0 | --- | --- | --- | --- | --- | --- |
| | EB11L | 0.3 | --- | 34** | --- | <50 | --- | --- |
| | EB11L | 0.6 | --- | 4.3 | --- | <50 | --- | --- |
| | EB11L | 0.9 | --- | 1.8 | --- | <50 | --- | --- |
| | EB11L | 1.5 | --- | <1.0 | --- | <50 | --- | --- |
| | EB11L | 2.1 | --- | <1.0 | --- | <50 | --- | --- |

TABLE 2
SUMMARY OF TPHg, TPHd, TPHmo, AHVOCs, PESTICIDES, AND PCBs
ANALYTICAL RESULTS - SOIL
SFOBB EAST SPAN ON YERBA BUENA ISLAND IN SAN FRANCISCO COUNTY

| Sample ID | Boring ID | Sample Depth (meters) | TPHg (mg/kg) | TPHd (mg/kg) | TPHmo (mg/kg) | AHVOCs (µg/kg) | Chlorinated Pesticides (µg/kg) | PCBs (µg/kg) |
|-----------|-----------|-----------------------|--------------|--------------|---------------|----------------|--|----------------------|
| EB12L | EB12L | 0 | --- | 340 | --- | --- | ND | Aroclor 1254 =370 |
| | EB12L | 0.3 | <1.0 | 5.9 | 9.2 | <50 | ND | ND |
| | EB12L | 0.6 | <1.0 | <1.0 | <1.0 | <50 | ND | ND |
| | EB12L | 0.9 | <1.0 | <1.0 | <1.0 | <50 | ND | ND |
| | EB12L | 1.5 | <1.0 | <1.0 | <1.0 | <50 | ND | ND |
| EB13L | EB13L | 0 | <1.0 | --- | 3.2 | --- | --- | --- |
| | EB13L | 0.3 | <1.0 | --- | 6.5 | <50 | --- | --- |
| | EB13L | 0.6 | <1.0 | --- | 44 | <50 | --- | --- |
| | EB13L | 0.9 | <1.0 | --- | <1.0 | <50 | --- | --- |
| | EB13L | 1.5 | <1.0 | 52 | --- | <50 | --- | --- |
| | EB13L | 2.4 | 110 | 2700 | --- | <50 | --- | --- |
| | EB13L | 3.4 | 5.4 | 54 | --- | <50 | --- | --- |
| EB14L | EB14L | 0 | <1.0 | 8.8 | --- | --- | ND | ND |
| | EB14L | 0.3 | <1.0 | 140 | --- | <50 | 4,4'-DDD=140 4,4'-DDE=360 4,4'-DDT=590 | Aroclor 1260 =240 |
| | EB14L | 0.6 | <1.0 | 24 | --- | <50 | ND | ND |
| | EB14L | 0.9 | <1.0 | 34 | --- | <50 | ND | ND |
| | EB14L | 1.5 | <1.0 | 50** | --- | <50 | 4,4'-DDD=17 4,4'-DDE=42 4,4'-DDT=64 | Aroclor 1260 =65 |
| | EB14L | 3.4 | <1.0 | 160 | 12000 | 9700 | <50 | ND |
| EB14R | EB14R | 0 | <1.0 | 280** | --- | --- | ND | ND |
| | EB14R | 0.3 | <1.0 | 120** | 280 | <50 | ND | ND |
| | EB14R | 0.6 | <1.0 | 33** | 80 | <50 | ND | ND |
| | EB14R | 0.9 | <1.0 | 160** | 270 | <50 | ND | ND |
| | EB14R | 1.5 | <1.0 | 240 | 260 | <50 | ND | ND |
| | EB14R | 3.4 | 160 | 12000 | 9700 | <50 | ND | ND |
| EB16 | EB16 | 0 | --- | 140 | --- | --- | --- | --- |
| | EB16 | 0.3 | --- | 53 | --- | <50 | --- | --- |
| | EB16 | 0.6 | --- | 260 | --- | <50 | --- | --- |
| | EB16 | 0.9 | --- | 970** | --- | <50 | --- | --- |
| | EB16 | 1 | --- | --- | --- | --- | --- | --- |
| EB17 | EB17 | 0 | --- | 38** | --- | --- | ND | ND |
| | EB17 | 0.3 | <1.0 | 11** | 18 | <50 | ND | ND |
| | EB17 | 0.6 | <1.0 | 3.2 | 2.1 | <50 | ND | ND |
| | EB17 | 0.9 | <1.0 | <1.0 | 1.7 | <50 | ND | ND |

TABLE 2
SUMMARY OF TPHg, TPHd, TPHmo, AHVOCs, PESTICIDES, AND PCBs
ANALYTICAL RESULTS - SOIL
SFOBB EAST SPAN ON YERBA BUENA ISLAND IN SAN FRANCISCO COUNTY

| Sample ID | Boring ID | Sample Depth (meters) | TPHg (mg/kg) | TPHd (mg/kg) | TPHmo (mg/kg) | AHVOCs (µg/kg) | Chlorinated Pesticides (µg/kg) | PCBs (µg/kg) |
|--|-----------|-----------------------|--------------|--------------|---------------|---------------------------------|--|--------------|
| <i>Transition Structure Eastbound Off-ramp</i> | | | | | | | | |
| W8E | W8EC | 0 | --- | --- | --- | --- | 4,4-DDT = 4.5 Endosulfan I = 5.2 | ND |
| | W8EC | 0.3 | <1.0 | <1.0 | <1.0 | <50 | ND | ND |
| | W8EC | 0.6 | --- | --- | --- | <50 | ND | ND |
| | W8ED | 0 | --- | --- | --- | --- | 4,4-DDD = 100 4,4-DDT = 270 Endosulfan I = 320 | ND |
| | W8ED | 0.3 | <1.0 | 3.1* | 4.6* | <50 | ND | ND |
| | W8ED | 0.6 | --- | --- | --- | <50 | --- | ND |
| W10E | W10ED | 0 | --- | --- | --- | --- | ND | ND |
| | W10ED | 0.3 | <1.0 | 68* | 110* | <50 | 4,4-DDT=21 | ND |
| | W10ED | 0.6 | --- | --- | --- | <50 | ND | ND |
| | W10ED | 0.9 | <1.0 | 110* | 170* | dichlorodifluoro- methane=50 | ND | ND |
| | W10ED | 1.5 | <1.0 | 81* | 130* | <50 | 4,4-DDT=9.9 | ND |
| | W10EA,B,C | 0 | --- | --- | --- | --- | 4,4'-DDD=6.3 4,4'-DDT=25 | ND |
| | W10EA,B,C | 0.3 | <1.0 | 4.1* | 7.4* | <50 | ND | ND |
| | W10EA,B,C | 0.6 | <1.0 | 98* | 120* | <50 | ND | ND |
| | W10EA,B,C | 0.9 | <1.0 | 69* | 84* | <50 | 4,4'-DDT=7.8 | ND |
| | W10EA,B | 1.5 | <1.0 | 29* | 30* | dichlorodifluoro- methane=50 | 4,4'-DDD=13 4,4'-DDT=18 | ND |
| W10EA,B | 2.7/3.5 | <1.0 | 4.9* | 5.4* | <50 | ND | ND | |
| <i>Transition Structures</i> | | | | | | | | |
| W2L | W2LC | 0.6 | <1.0 | <1.0 | 1.6 | <50 | ND | ND |
| | W2LC,D | 0 | <1.0 | 8.7** | 17 | <50 | 4,4-DDD=11 4,4-DDE=47 4,4-DDT=70 | ND |
| | W2LC,D | 0.3 | <1.0 | 29** | 62 | dichlorodifluoro- methane=50 | 4,4-DDD=11 4,4-DDE=51 4,4-DDT=85 | ND |
| W2R | W2RA | 0.3 | --- | --- | --- | <50 | --- | --- |
| | W2RA,B | 0 | --- | --- | --- | <50 | --- | --- |

TABLE 2
SUMMARY OF TPHg, TPHd, TPHmo, AHVOCs, PESTICIDES, AND PCBs
ANALYTICAL RESULTS - SOIL
SFOBB EAST SPAN ON YERBA BUENA ISLAND IN SAN FRANCISCO COUNTY

| Sample ID | Boring ID | Sample Depth (meters) | TPHg (mg/kg) | TPHd (mg/kg) | TPHmo (mg/kg) | AHVOCs (µg/kg) | Chlorinated Pesticides (µg/kg) | PCBs (µg/kg) |
|-----------|------------|-----------------------|--------------|--------------|---------------|---|--------------------------------|---------------------|
| W3L | W3LA,B,C,D | 0 | --- | --- | --- | <50 | --- | --- |
| | W3LA,B,D | 0.3 | --- | --- | --- | <50 | --- | --- |
| W3R | W3RA,B,C,D | 0 | --- | --- | --- | --- | ND | ND |
| | W3RA,B,C,D | 0.3 | <1.0 | 8.3 | 14* | <50 | ND | ND |
| | W3RA,C | 0.6 | --- | 4.4** | --- | <50 | ND | ND |
| | W3RA,C | dup | --- | --- | --- | <50 | --- | --- |
| W4R | W4RA | 0 | --- | 170** | --- | --- | ND | ND |
| | W4RA | 0.3 | <1.0 | 31 | 52 | <50 | ND | ND |
| | W4RA | 0.6 | <1.0 | 3.1 | 3.8 | <50 | ND | ND |
| | W4RA | 0.9 | <1.0 | <1.0 | 2.3* | <50 | ND | ND |
| | W4RA | 1.5 | <1.0 | 62 | 140 | <50 | ND | ND |
| | W4RA | 7.0 | 170 | 1800 | 960 | p,m-Xylene=200 o-Xylene=280 | ND | ND |
| | W4RB | 0 | --- | 61** | --- | --- | --- | --- |
| | W4RB | 0.3 | <1.0 | 130** | 410 | <50 | --- | --- |
| | W4RB | 0.6 | <1.0 | <1.0 | <1.0 | <50 | --- | --- |
| | W4RB | 0.9 | <1.0 | <1.0* | <1.0* | <50 | --- | --- |
| | W4RB | 1.5 | <1.0 | <1.0 | <1.0 | <50 | --- | --- |
| | W4RB | 7.3 | 10 | 450 | 310 | <50 | --- | --- |
| | W4RC | 0 | --- | 36** | --- | --- | 4,4'-DDT=44 | Aroclor 1262 =45 |
| | W4RC | 0.3 | <1.0 | <1.0 | <1.0 | <50 | ND | ND |
| | W4RC | 0.6 | <1.0 | 19 | 30 | <50 | ND | ND |
| | W4RC | 0.9 | <1.0 | 62** | 110 | <50 | ND | ND |
| | W4RC | 1.5 | <1.0 | 67 | 110 | <50 | ND | ND |
| | W4RD | 0 | <1.0 | 140** | 230 | <50 | 4,4'-DDT=12 | ND |
| | W4RD | 0.3 | <1.0 | 13** | 18 | <50 | ND | ND |
| | W4RD | 0.6 | <1.0 | 17** | 26 | <50 | ND | ND |
| | W4RD | 0.9 | <1.0 | 32** | 47 | <50 | ND | ND |
| W4RD | 1.5 | <1.0 | 220** | 390 | <50 | ND | ND | |
| W4RD | 2.1 | <1.0 | 120** | 170 | <50 | ND | ND | |
| W5L | W5LC | 9.1 | 220 | 8000 | 5500 | 4-Isopropyltoluene=650 Isopropylbenzene=500 n-Butylbenzene=1900 n-Propylbenzene=800 Naphthalene=12000 | --- | --- |

TABLE 2
SUMMARY OF TPH_g, TPH_d, TPH_{mo}, AHVOCs, PESTICIDES, AND PCBs
ANALYTICAL RESULTS - SOIL
SFOBB EAST SPAN ON YERBA BUENA ISLAND IN SAN FRANCISCO COUNTY

| Sample ID | Boring ID | Sample Depth (meters) | TPH _g (mg/kg) | TPH _d (mg/kg) | TPH _{mo} (mg/kg) | AHVOCs (µg/kg) | Chlorinated Pesticides (µg/kg) | PCBs (µg/kg) |
|-----------|------------|-----------------------|--------------------------|--------------------------|---------------------------|-------------------------------------|--|--------------|
| W6L | W6LC,B,D | 0 | --- | 1,800** | --- | --- | ND | ND |
| | W6LA,B,C,D | 0.3 | <1.0 | 45 | 76* | <50 | ND | ND |
| | W6LA,B,C,D | 0.6 | <1.0 | 2.1 | 2.7* | <50 | ND | ND |
| | W6LA,B,C,D | 0.9 | <1.0 | 4.3 | 5.9* | <50 | ND | ND |
| | W6LA,B,D | 1.5 | <1.0 | 2.2 | 2.5* | <50 | ND | ND |
| | W6LA,B,D | dup | --- | --- | --- | <50 | --- | --- |
| W9 | W9C | 0 | --- | 15** | --- | --- | ND | ND |
| | W9C | 0.3 | <1.0 | 6.5** | 10 | ND | Aldrin=4.4 beta-BHC=6.4 delta-BHC=3.5 EndosulfanI=4.2 | ND |
| | W9C | 0.6 | <1.0 | 41** | --- | ND | ND | ND |
| | W9C | 0.9 | <1.0 | 26** | 39 | dichlorodi- fluoromethane= 50 | ND | ND |
| | W9C | 1.5 | <1.0 | 60** | 110 | ND | ND | ND |
| W11R | W11RB | 0 | --- | 2.0** | --- | --- | ND | ND |
| | W11RB | 0.3 | <1.0 | <1.0 | <1.0 | <50 | ND | ND |
| | W11RB | 0.6 | <1.0 | <1.0 | --- | <50 | ND | ND |
| | W11RB | 0.9 | <1.0 | <1.0 | <1.0 | <50 | ND | ND |
| | W11RB | 1.5 | <1.0 | <1.0 | <1.0 | <50 | ND | ND |

- * Sample contain hydrocarbons that fall within the diesel and/or motor oil range but does not match either pattern.
- ** Sample contain hydrocarbons that are heavier than diesel pattern.
- < Analyte was not detected above the stated laboratory reporting limit
- Not Analyzed
- AHVOCs Aromatic Halogenated Volatile Organic Compounds
- dup Duplicate sample analysis
- PCBs Polychlorinated Biphenyls
- ND No analytes were reported above the laboratory reporting limit
- TPH Total Petroleum Hydrocarbons as g=gasoline, d=diesel, mo=motor oil
- mg/kg milligrams per kilogram
- µg/kg micrograms per kilogram

TABLE 3
SUMMARY OF TITLE 22 METALS ANALYTICAL RESULTS - SOIL
SFOBB EAST SPAN ON YERBA BUENA ISLAND IN SAN FRANCISCO COUNTY

| Sample ID | Boring ID | Sample Depth (meters) | Antimony | Arsenic | Barium | Beryllium | Cadmium | Chromium | Cobalt | Copper | Lead | Mercury | Molybdenum | Nickel | Selenium | Silver | Thallium | Vanadium | Zinc |
|-----------|-----------|-----------------------|----------|---------|--------|-----------|---------|----------|--------|--------|------|---------|------------|--------|----------|--------|----------|----------|------|
| WB5R | WB5R | 0.3 | 0.50 | 3.5 | 30 | <0.15 | <0.15 | 22 | 4.5 | 6.0 | 7.0 | <0.10 | 2.0 | 16 | <0.25 | <0.15 | <0.25 | 16 | 17 |
| | WB5R | 0.6 | 1.0 | 3.5 | 36 | <0.15 | <0.15 | 24 | 5.0 | 5.0 | 2.5 | <0.10 | 2.5 | 22 | <0.25 | <0.15 | 0.42 | 17 | 15 |
| | WB5R | 0.9 | 0.50 | 4.5 | 38 | <0.15 | <0.15 | 24 | 3.5 | 5.5 | 2.0 | <0.10 | 2.0 | 16 | <0.25 | <0.15 | 0.49 | 18 | 16 |
| | WB5R | 1.2 | 94 | 72 | 92 | 58 | 54 | 76 | 48 | 79 | 100 | <0.10 | 38 | 80 | 98 | 34 | 63 | 74 | 78 |
| | re-run | WB5R | 1.2 | 0.5 | 3.5 | 34 | <0.15 | <0.15 | 26 | 5 | 6.5 | 2 | <0.10 | <0.25 | 20 | <0.15 | <0.25 | 18 | 18 |
| WB7L | WB7L | 0.3 | 0.50 | 3.0 | 84 | <0.15 | <0.15 | 18 | 3.0 | 9.5 | 38 | <0.10 | 2.5 | 15 | <0.25 | 0.36 | 0.50 | 12 | 40 |
| | WB7L | 0.6 | 0.49 | 5.0 | 150 | <0.15 | <0.15 | 28 | 4.5 | 18 | 90 | <0.10 | 2.0 | 21 | <0.25 | 0.50 | 0.50 | 20 | 76 |
| WB9R | WB9R | 0 | 0.50 | 3.0 | 43 | <0.15 | <0.15 | 24 | 3.5 | 7.0 | 21 | <0.10 | 2.5 | 20 | <0.25 | <0.15 | <0.15 | 16 | 31 |
| | WB9R | 0.3 | 0.44 | 3.5 | 66 | <0.15 | <0.15 | 24 | 4.0 | 14 | 180 | <0.10 | 2.5 | 22 | <0.25 | <0.15 | <0.25 | 18 | 60 |
| | WB9R | 0.6 | 0.46 | 3.0 | 20 | <0.15 | <0.15 | 22 | 2.5 | 5.0 | 4.0 | <0.10 | 2.0 | 20 | <0.25 | <0.15 | <0.25 | 14 | 20 |
| | WB9R | 0.9 | 0.34 | 1.5 | 22 | <0.15 | <0.15 | 24 | 3.0 | 6.0 | 3.5 | <0.10 | 2.5 | 24 | <0.25 | <0.15 | <0.15 | 16 | 22 |
| | WB9R | 2 | 0.50 | 3.5 | 23 | <0.15 | <0.15 | 24 | 3.5 | 6.0 | 7.5 | <0.10 | 2.5 | 25 | <0.25 | <0.15 | <0.25 | 16 | 22 |
| | WB9R | 2 | 0.50 | 3.0 | 41 | <0.15 | <0.15 | 21 | 2.5 | 6.5 | 35 | 0.54 | 2.5 | 21 | <0.25 | <0.15 | 0.33 | 14 | 29 |
| WB11L | WB11L | 0 | 0.50 | 2.5 | 63 | <0.15 | <0.15 | 21 | 3.5 | 12 | 110 | <0.10 | 2.5 | 16 | <0.25 | 0.19 | 0.50 | 12 | 96 |
| | WB11L | 0.3 | <0.25 | 2.5 | 81 | <0.15 | <0.15 | 17 | 3.5 | 11 | 33 | <0.10 | 2.0 | 17 | <0.25 | <0.15 | <0.25 | 12 | 100 |
| | WB11L | 0.6 | 0.48 | 2.5 | 98 | <0.15 | <0.15 | 20 | 3.5 | 7.0 | 13 | <0.10 | 2.0 | 16 | <0.25 | <0.15 | 0.48 | 12 | 28 |
| | WB11L | 0.9 | <0.25 | 3.0 | 40 | <0.15 | <0.15 | 15 | 2.5 | 5.0 | 2.0 | <0.10 | 1.0 | 16 | <0.25 | 0.33 | 0.28 | 9.5 | 29 |
| | WB11L | 1.5 | <0.25 | 2.0 | 26 | <0.15 | <0.15 | 13 | 2.5 | 4.0 | 2.0 | <0.10 | 0.50 | 15 | <0.25 | 0.27 | 0.49 | 9.0 | 110 |
| | WB11L | 2.1 | 0.50 | 3.0 | 42 | <0.15 | <0.15 | 18 | 3.0 | 6.0 | 10 | <0.10 | 1.5 | 18 | <0.25 | 0.40 | <0.25 | 12 | 58 |
| WB13R | WB13R | 0 | <0.25 | 6.5 | 300 | <0.15 | <0.15 | 20 | 8.5 | 23 | 180 | <0.10 | 4.0 | 32 | <0.25 | <0.15 | 0.50 | 21 | 150 |
| | WB13R | 0.3 | <0.25 | 4.0 | 210 | <0.15 | <0.15 | 16 | 6.5 | 9.0 | 21 | 0.13 | 3.5 | 16 | <0.25 | <0.15 | 1.0 | 18 | 28 |
| | WB13R | 0.6 | 0.28 | 3.0 | 27 | <0.15 | <0.15 | 17 | 4.0 | 5.5 | 2.0 | <0.10 | 2.0 | 20 | <0.25 | <0.15 | <0.25 | 13 | 12 |
| | WB13R | 0.9 | 0.26 | 4.5 | 30 | <0.15 | <0.15 | 18 | 4.0 | 6.0 | 2.0 | <0.10 | 1.5 | 21 | <0.25 | <0.15 | 0.50 | 13 | 13 |
| | WB13R | 2 | <0.25 | 2.5 | 29 | <0.15 | <0.15 | 14 | 3.0 | 4.5 | 1.5 | <0.10 | 1.5 | 18 | <0.25 | <0.15 | <0.25 | 10 | 10 |
| WB15L | WB15L | 0 | 0.26 | 4.5 | 200 | <0.15 | <0.15 | 19 | 6.5 | 11 | 16 | <0.10 | 4.0 | 29 | <0.25 | <0.15 | 0.50 | 18 | 34 |
| | WB15L | 0.3 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| | WB15L | 0.6 | 4.5 | 1.5 | 26 | <0.15 | <0.15 | 19 | 3.0 | 6.0 | 2.5 | <0.10 | 2.5 | 16 | <0.25 | <0.15 | 0.34 | 15 | 16 |
| | WB15L | 0.9 | <0.25 | 3.0 | 26 | <0.15 | <0.15 | 21 | 3.0 | 4.5 | 2.0 | <0.10 | 2.5 | 18 | <0.25 | <0.15 | <0.25 | 16 | 20 |
| | WB15L | 2 | 0.48 | 3.0 | 72 | <0.15 | <0.15 | 22 | 3.5 | 5.5 | 2.5 | <0.10 | 3.0 | 18 | <0.25 | <0.15 | 0.44 | 14 | 23 |

Westbound Detour Structure

TABLE 3
SUMMARY OF TITLE 22 METALS ANALYTICAL RESULTS - SOIL
SFOBB EAST SPAN ON YERBA BUENA ISLAND IN SAN FRANCISCO COUNTY

| Sample ID | Boring ID | Sample Depth (meters) | Antimony | Arsenic | Barium | Beryllium | Cadmium | Chromium | Cobalt | Copper | Lead | Mercury | Molybdenum | Nickel | Selenium | Silver | Thallium | Vanadium | Zinc |
|-----------------------------------|-----------|-----------------------|----------|---------|--------|-----------|---------|----------|--------|--------|------|---------|------------|--------|----------|--------|----------|----------|------|
| WB17R | WB17R | 0.3 | <0.25 | 3.0 | 78 | <0.15 | <0.15 | 21 | 3.0 | 5.5 | 2.5 | <0.10 | 2.5 | 16 | <0.25 | <0.15 | <0.25 | 13 | 22 |
| | WB17R | 0.6 | 0.50 | 2.5 | 38 | <0.15 | <0.15 | 16 | 2.5 | 4.5 | 1.5 | <0.10 | 2.0 | 15 | <0.25 | <0.15 | <0.25 | 12 | 17 |
| | WB17R | 0.9 | 0.50 | 2.5 | 32 | <0.15 | <0.15 | 19 | 3.0 | 4.5 | 2.0 | <0.10 | 2.5 | 17 | <0.25 | 0.26 | 0.46 | 14 | 20 |
| | WB17R | 2 | 0.50 | 4.0 | 52 | <0.15 | <0.15 | 29 | 4.5 | 5.5 | 2.5 | <0.10 | 3.0 | 20 | <0.25 | <0.15 | 0.50 | 21 | 22 |
| WB19L | WB19L | 0 | 1.5 | 10 | 200 | <0.15 | <0.15 | 26 | 9.5 | 28 | 100 | <0.10 | 10 | 29 | <0.25 | <0.15 | 1.0 | 34 | 120 |
| | WB19L | 0.3 | 1.0 | 8.5 | 200 | 0.29 | <0.15 | 21 | 4.5 | 12 | 18 | <0.10 | 7.5 | 19 | <0.25 | <0.15 | 0.44 | 36 | 36 |
| | WB19L | 0.6 | 1.0 | 8.0 | 220 | 0.29 | <0.15 | 18 | 4.5 | 16 | 25 | <0.10 | 7.5 | 18 | <0.25 | <0.15 | 0.50 | 34 | 38 |
| WB21 | WB21 | 0 | 0.50 | 5.0 | 750 | <0.15 | <0.15 | 15 | 11 | 18 | 120 | <0.10 | 4.0 | 20 | <0.25 | <0.15 | 0.50 | 28 | 50 |
| | WB21 | 0.3 | 0.46 | 5.0 | 860 | <0.15 | <0.15 | 12 | 11 | 13 | 14 | <0.10 | 4.0 | 18 | <0.25 | <0.15 | 1.0 | 28 | 38 |
| | WB22 | 0 | 0.47 | 5.0 | 220 | <0.15 | <0.15 | 16 | 10 | 26 | 48 | <0.10 | 3.5 | 35 | <0.25 | <0.15 | 0.50 | 24 | 50 |
| Eastbound Detour Structure | | | | | | | | | | | | | | | | | | | |
| EB2L | EB2L | 0 | 1.0 | 6.0 | 210 | <0.15 | <0.15 | 20 | 4.0 | 38 | 3800 | <0.10 | 4.0 | 23 | <0.25 | 0.36 | 1.0 | 27 | 190 |
| | EB2L | 0.3 | 0.50 | 3.0 | 88 | <0.15 | <0.15 | 20 | 3.5 | 10 | 9.0 | <0.10 | 2.0 | 17 | <0.25 | <0.15 | 0.50 | 14 | 57 |
| | EB2L | 0.6 | 0.50 | 4.0 | 130 | <0.15 | <0.15 | 22 | 4.0 | 81 | 91 | <0.10 | 2.0 | 20 | <0.25 | <0.15 | 0.50 | 16 | 100 |
| | EB2L | 0.9 | 0.28 | 4.5 | 57 | <0.15 | <0.15 | 24 | 3.5 | 6.5 | 3.0 | <0.10 | 1.5 | 22 | <0.25 | 0.21 | <0.25 | 16 | 26 |
| | EB2L | 1.5 | 0.47 | 3.0 | 29 | <0.15 | <0.15 | 20 | 3.5 | 5.5 | 2.5 | <0.10 | 2.0 | 19 | <0.25 | <0.15 | 0.39 | 16 | 20 |
| EB6R | EB6R | 0.3 | 1.0 | 4.0 | 150 | <0.15 | <0.15 | 30 | 10 | 34 | 48 | <0.10 | 4.0 | 35 | 0.38 | <0.15 | 1.0 | 32 | 70 |
| | EB6R | 0.6 | 0.37 | 4.5 | 64 | <0.15 | <0.15 | 13 | 4.0 | 10 | 14 | <0.10 | 1.5 | 16 | <0.25 | <0.15 | 0.39 | 12 | 26 |
| | EB6R | 0.9 | 1.0 | 8.0 | 180 | <0.15 | <0.15 | 32 | 9.0 | 24 | 48 | <0.10 | 4.0 | 34 | <0.25 | <0.15 | 0.50 | 32 | 57 |
| | EB6R | 1.5 | 1.0 | 8.0 | 170 | <0.15 | <0.15 | 32 | 10 | 26 | 140 | <0.10 | 4.0 | 37 | <0.25 | <0.15 | 0.50 | 36 | 73 |
| | EB6R | 2.4 | <0.25 | 3.0 | 62 | <0.15 | <0.15 | 8.5 | 5.0 | 9.5 | 5.5 | <0.10 | 1.5 | 17 | <0.25 | <0.15 | 0.50 | 9.5 | 20 |
| | EB8L | EB8L | 0.3 | 0.50 | 4.0 | 54 | <0.15 | <0.15 | 30 | 5.5 | 7.0 | 11 | <0.10 | 2.0 | 30 | <0.25 | <0.15 | 0.50 | 22 |
| EB10R | EB8L | 0.6 | 0.50 | 4.0 | 48 | <0.15 | <0.15 | 30 | 6.0 | 6.5 | 5.5 | <0.10 | 2.5 | 32 | <0.25 | <0.15 | 0.39 | 22 | 22 |
| | EB8L | 0.9 | 0.50 | 5.5 | 87 | <0.15 | <0.15 | 47 | 8.0 | 9.0 | 6.0 | <0.10 | 3.5 | 44 | <0.25 | <0.15 | 0.41 | 36 | 30 |
| | EB8L | 1 | 0.50 | 4.5 | 72 | <0.15 | <0.15 | 28 | 5.5 | 9.0 | 46 | <0.10 | 2.5 | 26 | <0.25 | 0.29 | <0.25 | 20 | 40 |
| | EB10R | EB10R | 0 | 0.30 | 8.0 | 46 | <0.15 | <0.15 | 18 | 3.5 | 15 | 60 | <0.10 | 1.0 | 18 | <0.25 | <0.15 | 0.48 | 10 |
| EB10R | EB10R | 0.3 | 0.32 | 2.0 | 27 | <0.15 | <0.15 | 13 | 3.5 | 6.5 | 34 | <0.10 | 1.0 | 15 | <0.25 | <0.15 | 0.42 | 10 | 37 |
| | EB10R | 0.6 | <0.25 | 2.0 | 48 | <0.15 | <0.15 | 14 | 3.0 | 7.0 | 120 | <0.10 | 1.0 | 14 | <0.25 | <0.15 | 0.50 | 10 | 64 |
| | EB10R | 0.9 | 0.29 | 2.5 | 96 | <0.15 | <0.15 | 18 | 8.0 | 5.0 | 5.5 | <0.10 | 2.0 | 22 | 0.50 | <0.15 | 0.50 | 12 | 19 |
| | EB10R | 2 | 0.44 | 5.0 | 250 | <0.15 | <0.15 | 16 | 12 | 16 | 9.5 | <0.10 | 3.5 | 24 | 0.37 | <0.15 | 1.5 | 20 | 36 |

TABLE 3
SUMMARY OF TITLE 22 METALS ANALYTICAL RESULTS - SOIL
SFOBB EAST SPAN ON YERBA BUENA ISLAND IN SAN FRANCISCO COUNTY

| Sample ID | Boring ID | Sample Depth (meters) | Antimony | Arsenic | Barium | Beryllium | Cadmium | Chromium | Cobalt | Copper | Lead | Mercury | Molybdenum | Nickel | Selenium | Silver | Thallium | Vanadium | Zinc | |
|-----------|--|-----------------------|----------|---------|--------|-----------|---------|----------|--------|---------|------|---------|------------|--------|----------|--------|----------|----------|------|----|
| EB12L | EB12L | 0 | 0.50 | 3.0 | 160 | <0.15 | <0.15 | 11 | 3.0 | 20 | 80 | <0.10 | 2.5 | 11 | 0.37 | <0.15 | 0.30 | 7.5 | 110 | |
| | EB12L | 0.3 | 0.36 | 12.0 | 33 | <0.15 | <0.15 | 9.5 | 2.0 | 3.0 | 12 | <0.10 | 1.0 | 9.5 | 0.32 | <0.15 | 0.43 | 6.5 | 13 | |
| | EB12L | 0.6 | <0.25 | 1.5 | 26 | <0.15 | <0.15 | 9.0 | 2.0 | 2.5 | 9.0 | <0.10 | 0.50 | 9.0 | 0.47 | <0.15 | 0.50 | 7.0 | 10 | |
| | EB12L | 0.9 | <0.25 | 2.0 | 79 | <0.15 | <0.15 | 26 | 7.0 | 8.0 | 3.5 | <0.10 | 2.0 | 29 | <0.25 | 0.50 | 0.50 | 23 | 18 | |
| | EB12L | 1.5 | <0.25 | 2.0 | 30 | <0.15 | <0.15 | 16 | 4.5 | 4.0 | 2.0 | <0.10 | 1.5 | 22 | 0.40 | 0.39 | 0.50 | 12 | 13 | |
| EB14R | EB14R | 0 | 0.36 | 3.5 | 94 | <0.15 | <0.15 | 17 | 5.5 | 47 | 410 | <0.10 | 3.0 | 20 | 0.50 | 1.0 | 0.50 | 15 | 210 | |
| | EB14R | 0.3 | 0.50 | 5.5 | 34 | <0.15 | <0.15 | 18 | 6.0 | 12 | 140 | <0.10 | 4.0 | 15 | 0.43 | 0.50 | 1.0 | 21 | 62 | |
| | EB14R | 0.6 | <0.25 | 3.0 | 80 | <0.15 | <0.15 | 15 | 6.0 | 18 | 110 | <0.10 | 2.0 | 20 | <0.25 | 0.50 | 0.50 | 16 | 78 | |
| | EB14R | 0.9 | 2.0 | 18 | 140 | <0.15 | <0.15 | 17 | 6.5 | 110 | 1500 | <0.10 | 10 | 18 | <0.25 | 2.0 | 4.0 | 14 | 640 | |
| | EB14R | 1.5 | 0.50 | 13 | 170 | <0.15 | <0.15 | 22 | 6.0 | 790/7.4 | 2600 | 0.40 | 8.5 | 57 | 0.50 | 1.0 | 1.5 | 12 | 1400 | |
| EB17 | EB14R | 3.4 | <0.25 | 4.0 | 78 | <0.15 | <0.15 | 10 | 4.0 | 28 | 580 | 0.18 | 1.5 | 14 | <0.25 | <0.15 | <0.25 | 9.5 | 240 | |
| | EB17 | 0 | 0.50 | 6.5 | 150 | <0.15 | <0.15 | 18 | 4.5 | 190 | 1900 | <0.10 | 4.5 | 20 | 0.50 | 0.35 | 1.0 | 13 | 740 | |
| | EB17 | 0.3 | 0.50 | 5.5 | 100 | <0.15 | <0.15 | 27 | 6.0 | 20 | 350 | <0.10 | 2.5 | 30 | <0.25 | <0.15 | 0.50 | 18 | 130 | |
| | EB17 | 0.6 | 0.50 | 4.0 | 54 | <0.15 | <0.15 | 28 | 5.5 | 7.5 | 7 | <0.10 | 2.0 | 36 | <0.25 | <0.15 | 0.50 | 16 | 20 | |
| W8E | EB17 | 0.9 | 0.50 | 4.5 | 66 | <0.15 | <0.15 | 28 | 7.5 | 10 | 20 | <0.10 | 2.0 | 43 | 0.50 | <0.15 | 0.47 | 19 | 34 | |
| | <i>Transition Structure Eastbound Off-ramp</i> | | | | | | | | | | | | | | | | | | | |
| | W8E | W8EC | 0 | 0.41 | 5.0 | 90 | <0.15 | <0.15 | 30 | 7.5 | 10 | 30 | <0.10 | 4.0 | 30 | <0.25 | <0.15 | 0.50 | 20 | 29 |
| | W8E | W8EC | 0.3 | <0.25 | 3.0 | 92 | <0.15 | <0.15 | 11 | 8.5 | 9.5 | 8.0 | <0.10 | 3.0 | 20 | <0.25 | <0.15 | 0.50 | 14 | 29 |
| | W8E | W8EC | 0.6 | 0.30 | 2.0 | 72 | <0.15 | <0.15 | 6.5 | 4.5 | 6.0 | 6.0 | <0.10 | 2.0 | 9.5 | <0.25 | <0.15 | 0.35 | 11 | 20 |
| W10E | W8ED | 0 | 0.50 | 3.0 | 60 | <0.15 | <0.15 | 22 | 4.5 | 22 | 580 | <0.10 | 2.0 | 24 | <0.25 | <0.15 | <0.25 | 15 | 94 | |
| | W8ED | 0.3 | 0.50 | 3.0 | 53 | <0.15 | <0.15 | 24 | 5.0 | 12 | 35 | 2.0 | <0.10 | 24 | <0.25 | <0.25 | 0.34 | 16 | 23 | |
| | W8ED | 0.6 | <0.25 | 3.5 | 52 | <0.15 | <0.15 | 27 | 5.5 | 9.5 | 23 | <0.10 | 2.5 | 29 | <0.25 | <0.15 | 0.32 | 18 | 22 | |
| | W10E | W10EA,B,C | 0.9 | 0.50 | 29 | 51 | <0.15 | <0.15 | 22 | 4.0 | 120 | <0.10 | 3.5 | 21 | <0.25 | <0.15 | 0.47 | 15 | 26 | |
| | W10E | W10EA,B | 2 | 0.36 | 3.0 | 36 | <0.15 | <0.15 | 21 | 4.0 | 7.0 | 12 | <0.10 | 1.5 | 20 | <0.25 | <0.15 | <0.25 | 15 | 18 |
| W2R | W10EA,B | 2.7/3.0 | 0.35 | 3.0 | 32 | <0.15 | <0.15 | 23 | 4.0 | 5.5 | 2.5 | <0.10 | 1.5 | 22 | <0.25 | <0.15 | <0.25 | 15 | 16 | |
| | <i>Transition Structures</i> | | | | | | | | | | | | | | | | | | | |
| | W2R | W2RA | 0 | 0.50 | 4.5 | 82 | <0.15 | <0.15 | 28 | 6.0 | 32 | 94 | <0.10 | <0.25 | 28 | >0.25 | 1.5 | <0.25 | 20 | 88 |
| | W2R | W2RA | 0.3 | 0.5 | 7.5 | 86 | <0.15 | <0.15 | 23 | 6.5 | 27 | 160 | <0.10 | 0.26 | 32 | <0.25 | <0.15 | <0.25 | 18 | 57 |
| W2R | W2RB | 0 | 0.50 | 5.5 | 77 | <0.15 | <0.15 | 24 | 7.5 | 28 | 60 | <0.10 | <0.25 | 30 | <0.25 | 0.34 | <0.25 | 19 | 76 | |

TABLE 3
SUMMARY OF TITLE 22 METALS ANALYTICAL RESULTS - SOIL
SFOBB EAST SPAN ON YERBA BUENA ISLAND IN SAN FRANCISCO COUNTY

| Sample ID | Boring ID | Sample Depth (meters) | Antimony | Arsenic | Barium | Beryllium | Cadmium | Chromium | Cobalt | Copper | Lead | Mercury | Molybdenum | Nickel | Selenium | Silver | Thallium | Vanadium | Zinc | |
|------------|-----------|-----------------------|----------|---------|----------|-----------|---------|----------|--------|--------|------|---------|------------|--------|----------|--------|----------|----------|------|----|
| W2L | W2LC | 0 | 0.50 | 4.5 | 99 | <0.15 | <0.15 | 20 | 7.0 | 39 | 110 | <0.10 | 0.50 | 24 | <0.25 | 0.50 | <0.25 | 18 | 150 | |
| | W2LC | 0.3 | 0.50 | 6.0 | 110 | <0.15 | <0.15 | 16 | 10 | 20 | 10 | <0.10 | 0.29 | 22 | <0.25 | <0.15 | <0.15 | 24 | 44 | |
| | W2LC | 0.6 | 0.50 | 9.0 | 200 | <0.15 | <0.15 | 25 | 18 | 25 | 10 | <0.10 | <0.25 | 44 | <0.25 | <0.15 | <0.25 | 28 | 52 | |
| | W2LC | 0.6 | 0.50 | 5.5 | 170 | <0.15 | <0.15 | 18 | 10 | 16 | 8.5 | <0.10 | 4.5 | 36 | <0.25 | <0.15 | 1.0 | 21 | 44 | |
| | W2LD | 0 | 0.48 | 4.0 | 92 | <0.15 | <0.15 | 26 | 6.5 | 12 | 46 | <0.10 | <0.25 | 28 | <0.25 | <0.15 | <0.15 | 22 | 36 | |
| | W2LD | 0.3 | 0.40 | 4.0 | 82 | <0.15 | <0.15 | 27 | 6.5 | 9.5 | 20 | 0.11 | <0.25 | 27 | <0.25 | <0.15 | <0.25 | 22 | 30 | |
| | W2LC,D | 0 | 0.50 | 4.5 | 140 | <0.15 | <0.15 | 24 | 12 | 16 | 38 | <0.10 | 3.5 | 31 | <0.25 | <0.15 | 0.50 | 22 | 48 | |
| | W2LC,D | 0.3 | 0.50 | 4.5 | 140 | <0.15 | <0.15 | 16 | 11 | 17 | 52 | <0.10 | 4.0 | 24 | <0.25 | <0.15 | 1.0 | 20 | 58 | |
| | W3R | W3RA | 0 | 0.44 | 4.5 | 200 | 0.19 | <0.15 | 12 | 7.0 | 12 | 7.0 | <0.10 | <0.25 | 14 | <0.25 | <0.15 | <0.25 | 25 | 26 |
| | | W3RA | 0.3 | 0.26 | 5.5 | 330 | 0.36 | <0.15 | 10 | 12 | 10 | 6.5 | <0.10 | <0.25 | 16 | <0.25 | <0.15 | <0.25 | 24 | 28 |
| W3RA | | 0.6 | 0.33 | 5.5 | 820 | 0.3 | <0.15 | 10 | 9.0 | 10 | 7.0 | <0.10 | <0.25 | 18 | <0.25 | <0.15 | <0.25 | 22 | 30 | |
| W3RB | | 0 | 0.25 | 2.0 | 120 | <0.15 | <0.15 | 6.0 | 3.0 | 9.5 | 17 | <0.10 | <0.25 | 8.5 | <0.25 | <0.15 | <0.25 | 12 | 18 | |
| W3RB | | 0.3 | 0.34 | 4.5 | 260 | <0.15 | <0.15 | 14 | 7.5 | 9 | 7 | <0.10 | <0.25 | 15 | <0.25 | <0.15 | <0.25 | 23 | 26 | |
| W3RC | | 0 | 0.5 | 4.5 | 97 | <0.15 | <0.15 | 21 | 5.5 | 20 | 280 | <0.10 | <0.25 | 20 | <0.25 | <0.15 | <0.25 | 26 | 74 | |
| W3RC | | 0.3 | 1.0 | 5.5 | 83 | <0.15 | <0.15 | 25 | 7.0 | 22 | 140 | <0.10 | <0.25 | 22 | <0.25 | <0.15 | <0.25 | 30 | 64 | |
| W3RC | | 0.6 | 0.50 | 6.5 | 72 | 0.37 | <0.15 | 19 | 12 | 15 | 44 | <0.10 | <0.25 | 20 | <0.25 | <0.15 | <0.25 | 36 | 43 | |
| W3RD | | 0 | 0.33 | 3.5 | 100 | <0.15 | <0.15 | 16 | 7.0 | 11 | 130 | <0.10 | <0.25 | 16 | <0.25 | 0.15 | <0.25 | 24 | 46 | |
| W3RD | | 0.3 | 0.50 | 6.0 | 45 | 0.41 | <0.15 | 18 | 8.0 | 11 | 22 | <0.10 | <0.25 | 24 | <0.25 | <0.15 | <0.25 | 34 | 36 | |
| W3RA,B,C,D | | 0 | 0.28 | 3.0 | 130 | <0.15 | <0.15 | 17 | 5.5 | 20 | 300 | <0.10 | 2.5 | 18 | <0.25 | <0.15 | 0.50 | 24 | 330 | |
| W3RA,B,C,D | | 0.3 | 0.31 | 3.5 | 180 | 0.25 | <0.15 | 12 | 6.5 | 13 | 7.0 | <0.10 | 3.0 | 13 | <0.25 | <0.15 | 0.50 | 24 | 27 | |
| W3RA,C | | 0.6 | 0.48 | 4.0 | 1100/<17 | 0.28 | <0.15 | 11 | 8.0 | 9.5 | 6.5 | <0.10 | 3.5 | 14 | <0.25 | <0.15 | 0.50 | 26 | 25 | |
| W3L | | W3LA | 0 | 0.5 | 4.5 | 240 | <0.15 | <0.15 | 10 | 14.0 | 14 | 7 | <0.10 | <0.25 | 15 | <0.25 | <0.15 | <0.25 | 18 | 35 |
| | | W3LA | 0.3 | 0.50 | 6.5 | 370 | <0.15 | <0.15 | 14 | 17 | 18 | 9 | <0.10 | <0.25 | 20 | <0.25 | <0.15 | <0.25 | 28 | 46 |
| | | W3LB | 0 | 0.5 | 5.5 | 220 | <0.15 | <0.15 | 17 | 8.5 | 18 | 30 | <0.10 | <0.25 | 22 | <0.25 | <0.15 | <0.25 | 24 | 54 |
| | | W3LC | 0 | 1.0 | 5.0 | 200 | <0.15 | <0.15 | 15 | 10 | 15 | 34 | <0.10 | <0.25 | 18 | <0.25 | <0.15 | <0.25 | 25 | 65 |
| | W3LC | 0.3 | 0.50 | 5.0 | 170 | <0.15 | <0.15 | 12 | 14 | 14 | 20 | <0.10 | <0.25 | 16 | <0.25 | <0.15 | <0.25 | 24 | 44 | |
| | W3LD | 0 | 2.5 | 6.0 | 160 | <0.15 | <0.15 | 19 | 11 | 20 | 170 | <0.10 | <0.25 | 22 | <0.25 | <0.15 | <0.25 | 28 | 210 | |
| | W3LD | 0.3 | 2.5 | 5.0 | 160 | <0.15 | <0.15 | 10 | 11 | 12 | 26 | <0.10 | 0.26 | 15 | <0.25 | <0.15 | <0.25 | 21 | 60 | |

TABLE 3
SUMMARY OF TITLE 22 METALS ANALYTICAL RESULTS - SOIL
SFOBB EAST SPAN ON YERBA BUENA ISLAND IN SAN FRANCISCO COUNTY

| Sample ID | Boring ID | Sample Depth (meters) | Antimony | Arsenic | Barium | Beryllium | Cadmium | Chromium | Cobalt | Copper | Lead | Mercury | Molybdenum | Nickel | Selenium | Silver | Thallium | Vanadium | Zinc |
|-----------|------------|-----------------------|----------|---------|--------|-----------|---------|----------|--------|--------|-------|---------|------------|--------|----------|--------|----------|----------|------|
| W4R | W4RA | 0 | 0.50 | 7.5 | 530 | <0.15 | <0.15 | 42 | 8.0 | 65 | 20 | <0.10 | 4.0 | 31 | <0.25 | <0.15 | 0.50 | 23 | 36 |
| | W4RA | 0.3 | 0.50 | 4.0 | 60 | <0.15 | <0.15 | 24 | 4.5 | 11 | 57 | <0.10 | 2.0 | 18 | <0.25 | <0.15 | 0.502 | 22 | 50 |
| | W4RA | 0.6 | 0.26 | 3.0 | 42 | <0.15 | <0.15 | 18 | 3.0 | 4.0 | 2.5 | <0.10 | 3.0 | 12 | 0.50 | 2.0 | 1.0 | 16 | 15 |
| | W4RA | 0.9 | 0.40 | 12 | 18 | <0.15 | <0.15 | 10 | 1.5 | 2.5 | 1.5 | <0.10 | 1.0 | 7.0 | <0.25 | 1.0 | <0.25 | 8.0 | 7.5 |
| | W4RA | 1.5 | 0.50 | 2.5 | 77 | <0.15 | <0.15 | 18 | 4.5 | 8.0 | 24 | <0.10 | 1.5 | 14 | 0.46 | <0.15 | 0.50 | 15 | 38 |
| | W4RA | 7.0 | 1 | 6.0 | 89 | <0.15 | <0.15 | 36 | 6.5 | 8.0 | 3.5 | <0.10 | 5.5 | 46 | <0.25 | <0.15 | 0.50 | 26 | 24 |
| | W4RB | 0 | 0.50 | 6.0 | 76 | <0.15 | <0.15 | 22 | 5.0 | 19 | 340 | <0.10 | 0.50 | 18 | <0.25 | 2.5 | <0.25 | 26 | 56 |
| | W4RB | 0.3 | 0.50 | 4.5 | 110 | <0.15 | <0.15 | 25 | 6.5 | 15 | 44 | <0.10 | <0.25 | 22 | <0.25 | 0.17 | <0.25 | 22 | 74 |
| | W4RB | 0.6 | 0.50 | 6.0 | 100 | <0.15 | <0.15 | 34 | 7.5 | 9 | 3.0 | <0.10 | <0.25 | 36 | <0.25 | <0.15 | <0.25 | 24 | 21 |
| | W4RB | 0.9 | 0.50 | 6.5 | 100 | <0.15 | <0.15 | 34 | 8.5 | 12 | 3.5 | <0.10 | <0.25 | 44 | <0.25 | <0.15 | <0.25 | 26 | 27 |
| | W4RB | 1.5 | 0.50 | 7.0 | 130 | <0.15 | <0.15 | 60/<0.20 | 10 | 12 | 4.5 | <0.10 | <0.25 | 38 | <0.25 | <0.15 | <0.25 | 36 | 29 |
| | W4RB | 7.3 | 0.50 | 10 | 250 | <0.15 | <0.15 | 29 | 18 | 29 | 9.0 | <0.10 | <0.25 | 52 | <0.25 | <0.15 | <0.25 | 31 | 64 |
| | W4RC | 0 | 0.50 | 4.5 | 77 | <0.15 | <0.15 | 24 | 4.0 | 22 | 400 | <0.10 | 2.5 | 21 | <0.25 | 0.17 | <0.25 | 20 | 130 |
| | W4RC | 0.3 | 0.46 | 3.5 | 43 | <0.15 | <0.15 | 28 | 4.5 | 6.5 | 2.5 | <0.10 | 2.0 | 29 | <0.25 | <0.15 | 0.32 | 18 | 20 |
| | W4RC | 0.6 | 0.39 | 2.0 | 36 | <0.15 | <0.15 | 16 | 3.5 | 6.5 | 68 | <0.10 | 1.5 | 20 | <0.25 | 1.5 | 1.0 | 11 | 28 |
| | W4RC | 0.9 | <0.25 | 2.0 | 40 | <0.15 | <0.15 | 17 | 4.0 | 5.5 | 26 | <0.10 | 1.5 | 20 | 0.29 | 0.30 | 0.50 | 12 | 22 |
| | W4RC | 2 | <0.25 | 2.0 | 40 | <0.15 | <0.15 | 18 | 4.0 | 6.0 | 16 | <0.10 | 1.5 | 23 | 0.27 | <0.15 | 0.50 | 12 | 19 |
| | W4RD | 0 | 0.50 | 4.5 | 76 | <0.15 | <0.15 | 20 | 4.0 | 18 | 290 | <0.10 | 4.0 | 20 | <0.25 | <0.15 | 0.37 | 18 | 180 |
| | W4RD | 0.3 | 0.50 | 5.5 | 160 | <0.15 | <0.15 | 20 | 4.5 | 9.0 | 130 | <0.10 | 4.0 | 22 | <0.25 | <0.15 | 0.50 | 18 | 98 |
| | W4RD | 0.6 | 0.50 | 3.5 | 54 | <0.15 | <0.15 | 18 | 2.5 | 6.5 | 64 | <0.10 | 3.0 | 15 | <0.25 | <0.15 | 0.28 | 14 | 61 |
| W4RD | 0.9 | 0.50 | 5.0 | 130 | <0.15 | <0.15 | 24 | 6.5 | 7.5 | 26 | <0.10 | 5.0 | 22 | <0.25 | <0.15 | 0.50 | 22 | 36 | |
| W4RD | 1.5 | 1.0 | 9.0 | 210 | <0.15 | <0.15 | 18 | 7.5 | 32 | 82 | <0.10 | 7.0 | 31 | <0.25 | <0.15 | 1.0 | 24 | 86 | |
| W4RD | 2.1 | 0.50 | 7.0 | 100 | <0.15 | <0.15 | 19 | 4.5 | 20 | 100 | <0.10 | 5.5 | 21 | <0.25 | <0.15 | 0.50 | 20 | 70 | |
| W5L | W5LC | 9.1 | 0.49 | 5.0 | 58 | <0.15 | <0.15 | 42 | 5.0 | 10 | 2.5 | <0.10 | <0.25 | 32 | <0.25 | <0.15 | <0.25 | 24 | 23 |
| W6L | W6LC,B,D | 0 | 0.50 | 6.0 | 370 | <0.15 | <0.15 | 21 | 10 | 16 | 20 | <0.10 | 4.5 | 32 | <0.25 | <0.15 | 1.0 | 26 | 36 |
| | W6LA,B,C,D | 0.3 | 0.41 | 2.0 | 42 | <0.15 | <0.15 | 19 | 4.0 | 5.5 | 3.0 | <0.10 | 2.0 | 19 | <0.25 | <0.15 | 0.34 | 13 | 50 |
| | W6LA,B,C,D | 0.6 | 0.39 | 2.0 | 29 | <0.15 | <0.15 | 20 | 3.5 | 4.5 | 2.0 | <0.10 | 1.5 | 19 | <0.25 | <0.15 | <0.25 | 12 | 12 |
| | W6LA,B,C,D | 0.9 | <0.25 | 2.0 | 29 | <0.15 | <0.15 | 18 | 3.5 | 4.5 | 1.5 | <0.10 | 2.0 | 20 | <0.25 | <0.15 | 0.44 | 12 | 12 |
| | W6LA,B,C | 1.5 | <0.25 | 2.0 | 30 | <0.15 | <0.15 | 18 | 3.5 | 5.0 | 2.0 | <0.10 | 1.5 | 20 | <0.25 | <0.15 | <0.25 | 12 | 13 |
| W9 | W9C | 0 | 0.50 | 3.5 | 44 | <0.15 | <0.15 | 20 | 5.0 | 8.0 | 15 | <0.10 | 2.5 | 18 | <0.25 | <0.15 | 0.50 | 16 | 40 |
| | W9C | 0.3 | 0.47 | 3.5 | 68 | <0.15 | <0.15 | 22 | 5.0 | 7.5 | 29 | <0.10 | 2.5 | 20 | <0.25 | <0.15 | 0.50 | 16 | 48 |
| | W9C | 0.6 | 0.35 | 3.5 | 44 | <0.15 | <0.15 | 22 | 6.0 | 7.0 | 12 | <0.10 | 2.5 | 20 | <0.25 | <0.15 | 0.26 | 16 | 40 |
| | W9C | 0.9 | 0.43 | 2.5 | 40 | <0.15 | <0.15 | 21 | 4.5 | 6.0 | 8.5 | <0.10 | 2.0 | 19 | <0.25 | <0.15 | 0.28 | 15 | 26 |
| | W9C | 2 | 0.34 | 3.0 | 62 | <0.15 | <0.15 | 22 | 5.5 | 8.5 | 10 | <0.10 | 2.0 | 20 | <0.25 | <0.15 | 0.50 | 16 | 27 |

TABLE 3
SUMMARY OF TITLE 22 METALS ANALYTICAL RESULTS - SOIL
SFOBB EAST SPAN ON YERBA BUENA ISLAND IN SAN FRANCISCO COUNTY

| Sample ID | Boring ID | Sample Depth (meters) | Antimony | Arsenic | Barium | Beryllium | Cadmium | Chromium | Cobalt | Copper | Lead | Mercury | Molybdenum | Nickel | Selenium | Silver | Thallium | Vanadium | Zinc |
|-----------|-----------|-----------------------|----------|---------|--------|-----------|---------|----------|--------|--------|------|---------|------------|--------|----------|--------|----------|----------|------|
| W11R | W11RB | 0 | 0.50 | 4.0 | 68 | <0.15 | <0.15 | 22 | 4.0 | 5.5 | 4.0 | <0.10 | 3.0 | 20 | <0.25 | <0.15 | 1.0 | 15 | 23 |
| | W11RB | 0.3 | 0.50 | 4.0 | 34 | <0.15 | <0.15 | 22 | 3.5 | 5.0 | 2.5 | <0.10 | 3.0 | 20 | <0.25 | <0.15 | 0.41 | 16 | 21 |
| | W11RB | 0.6 | 0.50 | 3.4 | 22 | <0.15 | <0.15 | 24 | 3.0 | 4.5 | 2.5 | <0.10 | 2.0 | 18 | <0.25 | <0.15 | 0.40 | 18 | 20 |
| | W11RB | 0.9 | 1.0 | 3.5 | 22 | <0.15 | <0.15 | 20 | 3.5 | 4.0 | 2.0 | <0.10 | 2.0 | 18 | <0.25 | <0.15 | 0.33 | 14 | 15 |
| | W11RB | 1.5 | 0.50 | 2.0 | 20 | <0.15 | <0.15 | 16 | 2.5 | 3.5 | 1.5 | <0.10 | 1.5 | 16 | <0.25 | <0.15 | 0.38 | 12 | 12 |
| | W11RB | 3.7 | 0.50 | 2.5 | 15 | <0.15 | <0.15 | 18 | 2.5 | 3 | 1.5 | <0.10 | 1.5 | 14 | <0.25 | <0.15 | <0.25 | 14 | 10 |

Note: 2.5/3.2 = Italics equal Waste Extraction Test (WET) data reported in milligrams per Liter (mg/L).

< Analyte was not detected above the stated laboratory reporting limit

--- Not Analyzed

All total metal data is reported in milligrams per kilogram (mg/kg)

TABLE 4
SUMMARY OF PAH ANALYTICAL RESULTS - SOIL
SFOBB EAST SPAN ON YERBA BUENA ISLAND IN SAN FRANCISCO COUNTY

| Sample ID | Boring ID | Sample Depth (meters) | Benzo(a)anthracene | Benzo(a)pyrene | Benzo(b)fluoranthene | Benzo(k)fluoranthene | Chrysene | Dibenzo(a,h)anthracene | Indeno(1,2,3-cd)pyrene | Acenaphthene | Acenaphthylene | Anthracene | Benzo(ghi)perylene | Fluoranthene | Fluorene | Naphthalene | Phenanthrene | Pyrene | |
|-----------|-----------|-----------------------|--------------------|----------------|----------------------|----------------------|----------|------------------------|------------------------|--------------|----------------|------------|--------------------|--------------|----------|-------------|--------------|--------|--------|
| WB3 | WB3 | 0.3 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 |
| | WB3 | 0.6 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 |
| | WB3 | 0.9 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 |
| | WB3 | 1.5 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 |
| WB5R | WB5R | 0.3 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 |
| | WB5R | 0.6 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 |
| | WB5R | 0.9 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 |
| | WB5R | 1.2 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 |
| WB7L | WB7L | 0.0 | 5.00 | 5.16 | 8.49 | 3.37 | 16.8 | 2.31 | 3.65 | 0.248 | <0.020 | 2.70 | 2.71 | 38.7 | 0.233 | 0.104 | 4.67 | 26.9 | |
| | WB7L | 0.3 | <0.020 | <0.020 | 0.034 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | 0.025 | 0.093 | 0.069 | |
| WB9R | WB9R | 0.0 | <0.010 | <0.010 | 0.014 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | 0.032 | <0.010 | 0.031 | 0.028 | 0.029 | |
| | WB9R | 0.3 | <0.010 | 0.013 | 0.015 | <0.010 | <0.010 | <0.010 | <0.010 | 0.017 | <0.010 | <0.010 | <0.010 | 0.052 | 0.010 | 0.013 | 0.069 | 0.035 | |
| | WB9R | 0.6 | 0.034 | 0.057 | 0.073 | 0.028 | 0.046 | 0.023 | 0.047 | 0.066 | <0.010 | 0.017 | 0.026 | 0.238 | 0.051 | 0.078 | 0.330 | 0.184 | |
| | WB9R | 0.9 | <0.010 | 0.014 | 0.018 | <0.010 | <0.010 | <0.010 | 0.010 | 0.012 | <0.010 | <0.010 | <0.010 | 0.054 | 0.010 | 0.022 | 0.076 | 0.039 | |
| | WB9R | 1.5 | 0.035 | 0.046 | 0.057 | 0.022 | 0.036 | 0.018 | 0.038 | 0.066 | <0.010 | <0.010 | 0.020 | 0.024 | 0.203 | 0.062 | 0.081 | 0.289 | |
| WB11L | WB11L | 0.0 | <0.010 | 0.015 | 0.016 | <0.010 | <0.010 | <0.010 | 0.012 | <0.010 | <0.010 | <0.010 | <0.010 | 0.034 | <0.010 | <0.010 | 0.032 | 0.029 | |
| | WB11L | 0.3 | <0.010 | 0.013 | 0.011 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | 0.023 | <0.010 | <0.010 | 0.023 | 0.022 | |
| | WB11L | 0.6 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | |
| | WB11L | 0.9 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | |
| | WB11L | 1.5 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | |
| WB13R | WB13R | 0.0 | <0.010 | <0.010 | 0.031 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | |
| | WB13R | 0.3 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | |
| | WB13R | 0.6 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | |
| | WB13R | 0.9 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | |
| | WB13R | 1.5 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | |
| WB15L | WB15L | 0.0 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | |
| | WB15L | 0.3 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | |
| | WB15L | 0.6 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | |
| | WB15L | 0.9 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | |

TABLE 4
SUMMARY OF PAH ANALYTICAL RESULTS - SOIL
SFOBB EAST SPAN ON YERBA BUENA ISLAND IN SAN FRANCISCO COUNTY

| Sample ID | Boring ID | Sample Depth (meters) | Benzo(a)anthracene | Benzo(a)pyrene | Benzo(b)fluoranthene | Benzo(k)fluoranthene | Chrysene | Dibenz(a,h)anthracene | Indeno(1,2,3-cd)pyrene | Acenaphthene | Acenaphthylene | Anthracene | Benzo(ghi)perylene | Fluoranthene | Fluorene | Naphthalene | Phenanthrene | Pyrene | | |
|-----------|-----------|-----------------------|--------------------|----------------|----------------------|----------------------|----------|-----------------------|------------------------|--------------|----------------|------------|--------------------|--------------|----------|-------------|--------------|--------|--------|--------|
| WB17R | WB17R | 0.3 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | |
| | WB17R | 0.6 | 0.015 | 0.040 | 0.028 | 0.011 | 0.019 | 0.011 | 0.030 | <0.010 | <0.010 | <0.010 | 0.026 | 0.015 | <0.010 | <0.010 | <0.010 | <0.010 | 0.023 | |
| | WB17R | 0.9 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 |
| | WB17R | 1.5 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 |
| WB19L | WB19L | 0.0 | 0.032 | 0.039 | 0.048 | 0.020 | 0.028 | 0.037 | 0.033 | 0.041 | <0.010 | 0.017 | 0.027 | 0.164 | 0.03 | 0.024 | 0.224 | 0.116 | | |
| | WB19L | 0.3 | 0.066 | 0.075 | 0.097 | 0.038 | 0.047 | 0.042 | 0.053 | 0.129 | 0.021 | 0.056 | 0.038 | 0.357 | 0.109 | 0.138 | 0.572 | 0.249 | | |
| | WB19L | 0.6 | 0.097 | 0.096 | 0.117 | 0.051 | 0.058 | 0.054 | 0.074 | 0.172 | 0.029 | 0.076 | 0.055 | 0.453 | 0.129 | 0.174 | 0.663 | 0.324 | | |
| WB21 | WB21 | 0.0 | 0.106 | 0.237 | 0.383 | 0.124 | 0.123 | <0.020 | 0.202 | 0.324 | <0.020 | 0.052 | 0.042 | 1.08 | 0.236 | 0.291 | 1.55 | 0.762 | | |
| | WB21 | 0.3 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | |
| EB2L | EB2L | 0.0 | 0.011 | 0.026 | 0.026 | <0.010 | 0.019 | 0.032 | 0.031 | <0.010 | <0.010 | <0.010 | 0.040 | 0.030 | <0.010 | <0.010 | <0.010 | 0.028 | 0.035 | |
| | EB2L | 0.3 | <0.010 | 0.019 | 0.025 | <0.010 | 0.015 | <0.010 | 0.018 | <0.010 | <0.010 | <0.010 | 0.016 | 0.038 | <0.010 | <0.010 | <0.010 | 0.045 | 0.041 | |
| | EB2L | 0.6 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | |
| | EB2L | 0.9 | 0.032 | 0.037 | 0.052 | <0.010 | 0.040 | 0.031 | 0.036 | 0.028 | <0.010 | <0.010 | 0.026 | 0.147 | <0.010 | 0.052 | 0.202 | 0.104 | | |
| | EB2L | 1.5 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | 0.013 | <0.010 | 0.012 | 0.019 | <0.010 | | |
| EB6R | EB6R | 0.3 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | |
| | EB6R | 0.6 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | |
| | EB6R | 0.9 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | |
| | EB6R | 1.5 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | |
| EB8L | EB8L | 0.3 | <0.010 | <0.010 | <0.010 | <0.010 | 0.182 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | |
| | EB8L | 0.6 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | |
| | EB8L | 0.9 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | |
| | EB8L | 1.2 | 7.68 | <0.010 | <0.010 | <0.010 | 9.43 | <0.010 | <0.010 | 1.16 | <0.010 | <0.010 | <0.010 | 0.429 | 13.0 | <0.010 | 27.8 | 0.444 | | |
| EB10R | EB10R | 0.0 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | |
| | EB10R | 0.3 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | |
| | EB10R | 0.6 | 0.026 | 0.044 | 0.035 | 0.015 | 0.024 | 0.018 | 0.035 | <0.010 | <0.010 | 0.013 | 0.025 | 0.077 | <0.010 | <0.010 | 0.053 | 0.098 | | |
| | EB10R | 0.9 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | |
| | EB10R | 1.5 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | |

Eastbound Detour Structure

TABLE 4
SUMMARY OF PAH ANALYTICAL RESULTS - SOIL
SFOBB EAST SPAN ON YERBA BUENA ISLAND IN SAN FRANCISCO COUNTY

| Sample ID | Boring ID | Sample Depth (meters) | Benzo(a) anthracene | Benzo(a) pyrene | Benzo(b) fluoranthene | Benzo(k) fluoranthene | Chrysene | Dibenz(a,h) anthracene | Indeno(1,2,3-cd) pyrene | Acenaphthene | Acenaphthylene | Anthracene | Benzo(ghi) perylene | Fluoranthene | Naphthalene | Phenanthrene | Pyrene | | | |
|-----------|------------|-----------------------|---------------------|-----------------|-----------------------|-----------------------|----------|------------------------|-------------------------|--------------|----------------|------------|---------------------|--------------|-------------|--------------|--------|--------|--------|--------|
| EB12L | EB12L | 0.0 | 0.072 | 0.106 | 0.204 | 0.083 | 0.143 | <0.010 | 0.097 | <0.010 | <0.010 | <0.010 | <0.010 | 0.338 | <0.010 | 0.101 | 0.264 | 0.278 | | |
| | | 0.3 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | |
| | | 0.6 | 0.011 | 0.021 | 0.025 | <0.010 | 0.013 | 0.016 | 0.016 | 0.02 | <0.010 | <0.010 | <0.010 | 0.017 | 0.031 | <0.010 | 0.018 | 0.030 | 0.030 | |
| | | 0.9 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 |
| | | 1.5 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 |
| EB14R | EB14R | 0.3 | 0.040 | 0.058 | 0.087 | 0.033 | 0.056 | <0.010 | 0.046 | 0.101 | <0.010 | 0.057 | <0.010 | 0.071 | 0.108 | 0.478 | 0.240 | 0.240 | | |
| | | 0.6 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | |
| | | 0.9 | <0.010 | 0.025 | 0.047 | 0.013 | <0.010 | <0.010 | 0.039 | 0.042 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | 0.062 | 0.045 | 0.045 | |
| | | 1.5 | <0.010 | 0.022 | 0.027 | <0.010 | 0.016 | <0.010 | 0.03 | 0.023 | <0.010 | <0.010 | <0.010 | 0.017 | 0.023 | 0.012 | 0.030 | 0.031 | 0.031 | |
| | | 3.4 | 6.87 | <0.010 | <0.010 | <0.010 | 4.43 | <0.010 | <0.010 | <0.010 | 0.615 | <0.010 | 0.104 | <0.010 | <0.010 | 0.053 | 0.774 | 0.521 | 0.521 | |
| EB16 | EB16 | 0.0 | 0.023 | 0.052 | 0.064 | 0.025 | 0.030 | <0.010 | 0.048 | 0.033 | <0.010 | 0.022 | 0.031 | 0.154 | 0.107 | 0.182 | 0.119 | 0.119 | | |
| | | 0.3 | 0.017 | 0.033 | 0.047 | 0.016 | 0.032 | <0.010 | 0.031 | 0.021 | <0.010 | 0.012 | 0.026 | 0.099 | 0.011 | 0.056 | 0.107 | 0.081 | 0.081 | |
| | | 0.6 | 0.065 | 0.102 | 0.133 | 0.052 | 0.096 | 0.07 | 0.097 | 0.114 | <0.010 | 0.027 | 0.059 | 0.355 | 0.074 | 0.094 | 0.468 | 0.295 | 0.295 | |
| | | 0.9 | <0.010 | <0.010 | 0.024 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 |
| EB17 | EB17 | 0.0 | 0.050 | 0.117 | 0.150 | 0.052 | 0.092 | 0.086 | 0.112 | 0.031 | <0.010 | 0.046 | 0.093 | 0.263 | 0.030 | 0.028 | 0.269 | 0.238 | 0.238 | |
| | | 0.3 | 0.014 | 0.038 | 0.047 | 0.017 | 0.021 | 0.021 | 0.036 | <0.010 | <0.010 | <0.010 | <0.010 | 0.032 | <0.010 | <0.010 | 0.044 | 0.060 | 0.060 | |
| | | 0.6 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 |
| | | 0.9 | 0.020 | 0.021 | 0.025 | 0.010 | 0.019 | <0.010 | 0.013 | 0.018 | 0.018 | <0.010 | 0.013 | <0.010 | 0.100 | <0.010 | 0.141 | 0.069 | 0.069 | |
| W8E | W8EC | 0.0 | <0.010 | 0.011 | 0.012 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | |
| | | 0.3 | <0.010 | 0.010 | 0.011 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | 0.015 | <0.010 | <0.010 | <0.010 | 0.016 | 0.01 | 0.079 | 0.029 | 0.029 | |
| | | 0.6 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 |
| | | 0.0 | 0.015 | 0.210 | 0.263 | 0.111 | 0.146 | 0.067 | 0.150 | 0.322 | <0.010 | <0.010 | 0.085 | 0.131 | 0.938 | 0.236 | 1.35 | 0.667 | 0.667 | |
| | | 0.3 | 0.127 | 0.217 | 0.294 | 0.125 | 0.148 | 0.093 | 0.184 | 0.383 | <0.010 | <0.010 | 0.082 | 0.105 | 0.984 | 0.26 | 1.44 | 0.702 | 0.702 | |
| W2L | W8ED | 0.6 | 0.079 | 0.117 | 0.150 | 0.062 | 0.081 | 0.064 | 0.102 | 0.143 | <0.010 | <0.010 | 0.040 | 0.076 | 0.114 | 0.116 | 0.642 | 0.334 | 0.334 | |
| | | 0.0 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 |
| | | 0.0 | 0.015 | 0.027 | 0.030 | 0.012 | 0.020 | <0.010 | 0.016 | 0.010 | <0.010 | <0.010 | <0.010 | 0.012 | 0.079 | <0.010 | 0.082 | 0.071 | 0.071 | |
| | | 0.3 | 0.032 | 0.046 | 0.074 | 0.035 | 0.038 | 0.039 | 0.115 | 0.036 | <0.010 | <0.010 | <0.010 | 0.110 | 0.103 | 0.036 | 0.153 | 0.071 | 0.071 | |
| | | 0.0 | 0.083 | 0.140 | 0.218 | 0.078 | 0.090 | <0.010 | <0.010 | 0.301 | <0.010 | <0.010 | 0.120 | <0.010 | 0.784 | 0.264 | 1.11 | 0.579 | 0.579 | |
| W3R | W3RA,B,C,D | 0.0 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | |
| | | 0.6 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | |
| | | 0.3 | 0.032 | 0.046 | 0.074 | 0.035 | 0.038 | 0.039 | 0.115 | 0.036 | <0.010 | <0.010 | <0.010 | 0.110 | 0.103 | 0.036 | 0.153 | 0.071 | 0.071 | |

Transition Structure Eastbound Off-ramp

Transition Structures

TABLE 4
SUMMARY OF PAH ANALYTICAL RESULTS - SOIL
SFOBB EAST SPAN ON YERBA BUENA ISLAND IN SAN FRANCISCO COUNTY

| Sample ID | Boring ID | Sample Depth (meters) | Benzo(a)anthracene | Benzo(a)pyrene | Benzo(b)fluoranthene | Benzo(k)fluoranthene | Chrysene | Dibenz(a,h)anthracene | Indeno(1,2,3-cd)pyrene | Acenaphthene | Acenaphthylene | Anthracene | Benzo(ghi)perylene | Fluoranthene | Fluorene | Naphthalene | Phenanthrene | Pyrene | | | | |
|-----------|----------------------|-----------------------|--------------------|----------------|----------------------|----------------------|----------|-----------------------|------------------------|--------------|----------------|------------|--------------------|--------------|----------|-------------|--------------|--------|--------|--------|--------|--------|
| W4R | W3RA,B,C,D W3RA,C | 0.3 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | | | |
| | | 0.6 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | | |
| | W4R | W4RA | 0.0 | <0.010 | <0.010 | 0.039 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | 0.039 | 0.016 | <0.010 | |
| | | | 0.3 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 |
| | | | 0.6 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 |
| | | | 0.9 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 |
| | | | 1.5 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 |
| | | | 7.0 | 3.42 | <0.010 | <0.010 | <0.010 | 4.52 | <0.010 | <0.010 | <0.010 | 0.714 | <0.010 | <0.010 | 0.227 | <0.010 | <0.010 | 1.54 | <0.010 | 15.4 | 0.47 | <0.010 |
| | | | 0.0 | 0.277 | 0.318 | 0.411 | 0.173 | 0.262 | 0.181 | 0.233 | 0.422 | 0.233 | 0.422 | 0.050 | 0.212 | 0.119 | 0.415 | 0.428 | 2.11 | 0.934 | 0.934 | <0.010 |
| | | | 0.3 | <0.010 | 0.010 | 0.020 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | 0.021 | 0.019 | <0.010 |
| 0.6 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | | | |
| 0.9 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | | | |
| W5L | W4RB | 1.5 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | | |
| | | 7.3 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | 0.052 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | 1.76 | 0.063 | | |
| | | 0.0 | 0.073 | 0.093 | 0.118 | 0.047 | 0.081 | 0.039 | 0.056 | 0.137 | 0.056 | 0.137 | 0.046 | 0.024 | 0.102 | 0.089 | 0.564 | 0.564 | 0.364 | 0.364 | | |
| | | 0.3 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | |
| | | 0.6 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | |
| | | 0.9 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | |
| | | 1.5 | <0.010 | 0.017 | 0.024 | <0.010 | 0.012 | <0.010 | <0.010 | 0.016 | 0.021 | <0.010 | <0.010 | 0.011 | 0.014 | 0.077 | 0.023 | 0.033 | 0.123 | 0.058 | 0.058 | |
| | | 0.0 | 0.358 | 0.344 | 0.415 | 0.182 | 0.389 | 0.200 | 0.188 | 0.369 | 0.369 | <0.010 | <0.010 | 0.189 | 0.095 | 2.07 | 2.52 | 2.03 | 2.03 | 1.62 | 1.62 | |
| | | 0.3 | <0.010 | 0.010 | 0.100 | <0.010 | 0.071 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | 0.043 | 0.052 | 0.255 | 0.019 | <0.010 | 0.011 | 0.019 | 0.019 | |
| | | 0.6 | 0.078 | 0.100 | 0.026 | <0.010 | 0.039 | <0.010 | 0.018 | 0.019 | 0.019 | <0.010 | <0.010 | <0.010 | 0.015 | 0.032 | <0.010 | <0.010 | 0.024 | 0.255 | 0.255 | |
| W6L | W4RD | 0.9 | <0.010 | 0.02 | 0.026 | 0.016 | <0.010 | <0.010 | 0.032 | <0.010 | <0.010 | <0.010 | <0.010 | 0.030 | 0.090 | <0.010 | 0.040 | 0.082 | 0.107 | 0.107 | | |
| | | 1.5 | <0.010 | 0.042 | 0.072 | 0.016 | 0.036 | <0.010 | 0.032 | <0.010 | <0.010 | <0.010 | <0.010 | 0.030 | 0.090 | <0.010 | 0.040 | 0.082 | 0.107 | 0.107 | | |
| | | 2.1 | <0.010 | 0.018 | 0.120 | 0.033 | 0.286 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | 0.018 | <0.010 | <0.010 | 0.118 | 0.027 | 0.027 | | |
| | | 9.1 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | 0.220 | <0.010 | 0.305 | <0.010 | 6.81 | 14.8 | 0.382 | 0.382 | | |
| | | 0.0 | 0.163 | <0.010 | 0.063 | <0.010 | 0.127 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | |
| | | 0.3 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | |
| | | 0.6 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | |
| | | 0.9 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | |
| | | 1.5 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | |
| | | W9 | W9C | 0.0 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 |
| 0.3 | <0.010 | | | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | | |
| 0.6 | <0.010 | | | 0.010 | 0.015 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | 0.046 | <0.010 | 0.032 | 0.063 | 0.034 | 0.034 | | |

TABLE 4
SUMMARY OF PAH ANALYTICAL RESULTS - SOIL
SFOBB EAST SPAN ON YERBA BUENA ISLAND IN SAN FRANCISCO COUNTY

| Sample ID | Boring ID | Sample Depth (meters) | Benzo(a)anthracene | Benzo(a)pyrene | Benzo(b)fluoranthene | Benzo(k)fluoranthene | Chrysene | Dibenz(a,h)anthracene | Inden(1,2,3-cd)pyrene | Acenaphthene | Acenaphthylene | Anthracene | Benzo(ghi)perylene | Fluoranthene | Fluorene | Naphthalene | Phenanthrene | Pyrene |
|-----------|-----------|-----------------------|--------------------|----------------|----------------------|----------------------|----------|-----------------------|-----------------------|--------------|----------------|------------|--------------------|--------------|----------|-------------|--------------|--------|
| | W9C | 0.9 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | 0.014 | <0.010 |
| | W9C | 1.5 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 |
| W10E | W10ED | 0.0 | 0.012 | 0.029 | 0.043 | 0.017 | 0.025 | <0.010 | 0.030 | 0.012 | <0.010 | <0.010 | 0.024 | 0.112 | <0.010 | 0.033 | 0.145 | 0.088 |
| | W10ED | 0.3 | 0.021 | 0.037 | 0.059 | 0.023 | 0.034 | 0.030 | 0.036 | 0.031 | <0.010 | <0.010 | 0.025 | 0.162 | 0.030 | 0.051 | 0.217 | 0.120 |
| | W10ED | 0.6 | 0.016 | 0.032 | 0.046 | 0.017 | 0.023 | 0.023 | 0.033 | 0.019 | <0.010 | <0.010 | 0.022 | 0.123 | 0.014 | 0.035 | 0.158 | 0.098 |
| | W10ED | 0.9 | <0.010 | <0.010 | 0.011 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | 0.028 | <0.010 | <0.010 | 0.032 | 0.018 |
| | W10ED | 1.5 | 0.013 | 0.023 | 0.033 | 0.012 | 0.021 | <0.010 | 0.021 | 0.022 | <0.010 | 0.012 | 0.014 | 0.081 | 0.019 | 0.026 | 0.115 | 0.059 |
| | W10EA,B,C | 0.0 | 0.079 | 0.142 | 0.185 | 0.082 | 0.086 | 0.080 | 0.118 | 0.166 | <0.010 | <0.010 | 0.071 | 0.625 | 0.148 | 0.216 | 0.902 | 0.452 |
| | W10EA,B,C | 0.3 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 |
| | W10EA,B,C | 0.6 | 0.011 | 0.019 | 0.022 | <0.010 | 0.016 | <0.010 | 0.017 | 0.016 | <0.010 | <0.010 | 0.011 | 0.071 | 0.012 | 0.017 | 0.096 | 0.051 |
| | W10EA,B,C | 0.9 | <0.010 | 0.018 | 0.023 | 0.010 | 0.012 | 0.01 | 0.016 | 0.017 | <0.010 | <0.010 | 0.010 | 0.079 | 0.014 | 0.022 | 0.121 | 0.056 |
| | W10EA,B | 1.5 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | 0.014 | <0.010 | <0.010 | 0.016 | <0.010 |
| | W10EA,B | 2.7 and 3.1 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 |
| W11R | W11RB | 0.0 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 |
| | W11RB | 0.3 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 |
| | W11RB | 0.6 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 |
| | W11RB | 0.9 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 |
| | W11RB | 1.5 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 |

Note: All data is reported in milligram per kilogram (mg/kg)

< Analyte was not detected above the stated laboratory reporting limit

TABLE 5
SUMMARY OF LEAD: TOTAL, WET, and TCLP with pH
ANALYTICAL RESULTS - SOIL
SFOBB EAST SPAN ON YERBA BUENA ISLAND IN SAN FRANCISCO COUNTY

| Bent ID | Boring ID | Sample Depth (meters) | Total Lead (mg/kg) | WET (mg/L) | TCLP (mg/L) | pH |
|------------------------------------|-----------|-----------------------|--------------------|------------|-------------|-----|
| <i>Westbound Detour Structures</i> | | | | | | |
| WB1 | WB1 | 0.3 | <5 | --- | --- | --- |
| | WB1 | 0.6 | <5 | --- | --- | --- |
| | WB1 | 0.9 | <5 | --- | --- | --- |
| | WB1 | 1.5 | <5 | --- | --- | --- |
| | WB1 | 4.3 | <5 | --- | --- | --- |
| WB2 | WB2 | 0.3 | <5 | --- | --- | --- |
| | WB2 | 0.6 | <5 | --- | --- | --- |
| | WB2 | 0.9 | <5 | --- | --- | --- |
| WB3 | WB3 | 0.3 | <5 | --- | --- | --- |
| | WB3 | 0.6 | <5 | --- | --- | --- |
| | WB3 | 0.9 | <5 | --- | --- | --- |
| | WB3 | 1.5 | <5 | --- | --- | --- |
| | WB3 | 1.2 | <5 | --- | --- | --- |
| WB4 | WB4 | 0.0 | 10 | --- | --- | --- |
| | WB4 | 0.3 | 29 | --- | --- | --- |
| | WB4 | 0.6 | <5 | --- | --- | --- |
| | WB4 | 0.9 | <5 | --- | --- | --- |
| | WB4 | 1.5 | <5 | --- | --- | --- |
| | WB4 | 2.4 | <5 | --- | --- | --- |
| WB5L | WB5L | 0.3 | <5 | --- | --- | --- |
| | WB5L | 0.6 | <5 | --- | --- | --- |
| | WB5L | 0.9 | <5 | --- | --- | --- |
| | WB5L | 1.5 | <5 | --- | --- | --- |
| WB5R | WB5R | 0.3 | 7.0 | --- | --- | --- |
| | WB5R | 0.6 | 2.5 | --- | --- | --- |
| | WB5R | 0.9 | 2.0 | --- | --- | --- |
| | WB5R | 1.2 | 100 | 0.47 | --- | --- |
| | WB5R | 1.2 re-run | 2 | --- | --- | --- |
| WB6L | WB6L | 0.3 | <5 | --- | --- | --- |
| | WB6L | 0.6 | <5 | --- | --- | --- |
| | WB6L | 0.9 | <5 | --- | --- | --- |
| | WB6L | 1.5 | <5 | --- | --- | --- |
| | WB6L | 1.8 | <5 | --- | --- | --- |

TABLE 5
SUMMARY OF LEAD: TOTAL, WET, and TCLP with pH
ANALYTICAL RESULTS - SOIL
SFOBB EAST SPAN ON YERBA BUENA ISLAND IN SAN FRANCISCO COUNTY

| Bent ID | Boring ID | Sample Depth (meters) | Total Lead (mg/kg) | WET (mg/L) | TCLP (mg/L) | pH |
|----------------|------------------|------------------------------|---------------------------|-------------------|--------------------|-----------|
| WB6R | WB6R | 0.3 | <5 | --- | --- | --- |
| | WB6R | 0.6 | <5 | --- | --- | --- |
| | WB6R | 0.9 | <5 | --- | --- | --- |
| | WB6R | 1.5 | <5 | --- | --- | --- |
| WB7L | WB7L | 0.0 | 38 | --- | --- | --- |
| | WB7L | 0.3 | 90 | 0.4* | --- | --- |
| WB7R | WB7R | 0.0 | 18 | --- | --- | --- |
| | WB7R | 0.3 | 29 | --- | --- | --- |
| | WB7R | 0.6 | <5 | --- | --- | --- |
| | WB7R | 0.9 | <5 | --- | --- | --- |
| | WB7R | 1.5 | <5 | --- | --- | --- |
| | WB7R | 1.8 | 53 | 0.5* | --- | 6.42 |
| WB8L | WB8L | 0.0 | 94 | <10 | --- | --- |
| | WB8L | 0.3 | 67 | 0.1* | --- | 7.15 |
| | WB8L | 0.6 | 47 | --- | --- | --- |
| | WB8L | 0.9 | 61 | 0.4* | --- | --- |
| WB8R | WB8R | 0.0 | 11 | --- | --- | --- |
| | WB8R | 0.3 | 10 | --- | --- | --- |
| | WB8R | 0.6 | <5 | --- | --- | --- |
| | WB8R | 0.9 | 44 | --- | --- | --- |
| WB9L | WB9L | 0.0 | 110 | 5* | --- | 5.63 |
| | WB9L | 0.3 | 26 | --- | --- | --- |
| | WB9L | 0.6 | 27 | --- | --- | --- |
| | WB9L | 0.9 | 47 | --- | --- | --- |
| WB9R | WB9R | 0.0 | 21 | --- | --- | --- |
| | WB9R | 0.3 | 180 | 1* | --- | --- |
| | WB9R | 0.6 | 4.0 | --- | --- | --- |
| | WB9R | 0.9 | 3.5 | --- | --- | --- |
| | WB9R | 1.5 | 7.5 | --- | --- | --- |
| | WB9R | 1.8 | 35 | --- | --- | --- |
| WB10L | WB10L | 0.0 | 290 | 6* | --- | --- |
| | WB10L | 0.3 | 98 | 0.6* | --- | 6.04 |
| | WB10L | 0.6 | 46 | --- | --- | --- |
| | WB10L | 0.9 | 8.7 | --- | --- | --- |
| | WB10L | 1.5 | 7.1 | --- | --- | --- |

TABLE 5
SUMMARY OF LEAD: TOTAL, WET, and TCLP with pH
ANALYTICAL RESULTS - SOIL
SFOBB EAST SPAN ON YERBA BUENA ISLAND IN SAN FRANCISCO COUNTY

| Bent ID | Boring ID | Sample Depth (meters) | Total Lead (mg/kg) | WET (mg/L) | TCLP (mg/L) | pH |
|---------|-----------|-----------------------|--------------------|------------|-------------|------|
| WB10R | WB10R | 0.0 | 8.4 | --- | --- | --- |
| | WB10R | 0.3 | 140 | 0.8* | --- | --- |
| | WB10R | 0.6 | 20 | --- | --- | --- |
| | WB10R | 0.9 | 35 | --- | --- | --- |
| | WB10R | 1.5 | 6.1 | --- | --- | --- |
| WB11L | WB11L | 0.0 | 110 | 8.0 | <0.15 | --- |
| | WB11L | 0.3 | 33 | --- | --- | --- |
| | WB11L | 0.6 | 13 | --- | --- | --- |
| | WB11L | 0.9 | 2.0 | --- | --- | --- |
| | WB11L | 1.5 | 2.0 | --- | --- | --- |
| | WB11L | 2.1 | 10 | --- | --- | --- |
| WB11R | WB11R | 0.0 | 46 | --- | --- | --- |
| | WB11R | 0.3 | <5 | --- | --- | --- |
| | WB11R | 0.6 | <5 | --- | --- | --- |
| | WB11R | 0.9 | <5 | --- | --- | --- |
| | WB11R | 1.5 | <5 | --- | --- | --- |
| | WB11R | 1.8 | <5 | --- | --- | --- |
| WB12L | WB12L | 0.0 | <5 | --- | --- | --- |
| | WB12L | 0.3 | 120 | 6.8 | 0.28 | --- |
| | WB12L | 0.6 | 78 | 6.1 | 0.36 | --- |
| | WB12L | 0.9 | 230 | 14 | 0.46 | --- |
| | WB12L | 1.5 | <5 | --- | --- | --- |
| WB12R | WB12R | 0.0 | 6.6 | --- | --- | --- |
| | WB12R | 0.3 | 1000 | --- | 0.6 | --- |
| | WB12R | 0.6 | 32 | --- | --- | --- |
| | WB12R | 0.9 | 20 | --- | --- | --- |
| | WB12R | 1.5 | 8.7 | --- | --- | --- |
| WB13L | WB13L | 0.0 | 28 | --- | --- | --- |
| | WB13L | 0.3 | 10 | --- | --- | --- |
| | WB13L | 0.6 | 6.0 | --- | --- | --- |
| | WB13L | 0.9 | 5.3 | --- | --- | --- |
| | WB13L | 1.5 | <5 | --- | --- | --- |
| WB13R | WB13R | 0.0 | 180 | 11 | 0.28 | 6.70 |
| | WB13R | 0.3 | 21 | --- | --- | --- |
| | WB13R | 0.6 | 2.0 | --- | --- | --- |
| | WB13R | 0.9 | 2.0 | --- | --- | --- |
| | WB13R | 1.5 | 1.5 | --- | --- | --- |

TABLE 5
SUMMARY OF LEAD: TOTAL, WET, and TCLP with pH
ANALYTICAL RESULTS - SOIL
SFOBB EAST SPAN ON YERBA BUENA ISLAND IN SAN FRANCISCO COUNTY

| Bent ID | Boring ID | Sample Depth (meters) | Total Lead (mg/kg) | WET (mg/L) | TCLP (mg/L) | pH |
|---------|-----------|-----------------------|--------------------|------------|-------------|------|
| WB14L | WB14L | 0.0 | 8.3 | --- | --- | --- |
| | WB14L | 0.3 | 13 | --- | --- | --- |
| | WB14L | 0.6 | <5 | --- | --- | --- |
| | WB14L | 0.9 | <5 | --- | --- | --- |
| | WB14L | 1.5 | <5 | --- | --- | --- |
| WB14R | WB14R | 0.0 | <5 | --- | --- | --- |
| | WB14R | 0.3 | <5 | --- | --- | --- |
| | WB14R | 0.6 | <5 | --- | --- | --- |
| | WB14R | 0.9 | <5 | --- | --- | --- |
| | WB14R | 1.5 | <5 | --- | --- | --- |
| WB15L | WB15L | 0.0 | 16 | --- | --- | --- |
| | WB15L | 0.3 | --- | --- | --- | --- |
| | WB15L | 0.6 | 2.5 | --- | --- | --- |
| | WB15L | 0.9 | 2.0 | --- | --- | --- |
| | WB15L | 1.5 | --- | --- | --- | --- |
| | WB15L | 1.8 | 2.5 | --- | --- | --- |
| WB15R | WB15R | 0.0 | 14 | --- | --- | --- |
| | WB15R | 0.3 | <5 | --- | --- | --- |
| | WB15R | 0.6 | <5 | --- | --- | --- |
| | WB15R | 1.8 | 5.7 | --- | --- | --- |
| WB16L | WB16L | 0.0 | 54 | 1* | --- | 7.69 |
| | WB16L | 0.3 | 310 | 1* | --- | --- |
| | WB16L | 0.6 | 560 | 2* | --- | --- |
| | WB16L | 0.9 | 360 | 1* | --- | 8.90 |
| WB16R | WB16R | 0.0 | --- | --- | --- | --- |
| | WB16R | 0.3 | 9.3 | --- | --- | --- |
| | WB16R | 0.6 | <5 | --- | --- | --- |
| | WB16R | 0.9 | <5 | --- | --- | --- |
| | WB16R | 4.6 | <5 | --- | --- | --- |
| WB17L | WB17L | 0.3 | <5 | --- | --- | --- |
| | WB17L | 0.6 | 16 | --- | --- | --- |
| | WB17L | 0.9 | <5 | --- | --- | --- |
| | WB17L | 1.5 | <5 | --- | --- | --- |

TABLE 5
SUMMARY OF LEAD: TOTAL, WET, and TCLP with pH
ANALYTICAL RESULTS - SOIL
SFOBB EAST SPAN ON YERBA BUENA ISLAND IN SAN FRANCISCO COUNTY

| Bent ID | Boring ID | Sample Depth (meters) | Total Lead (mg/kg) | WET (mg/L) | TCLP (mg/L) | pH |
|------------------------------------|------------------|------------------------------|---------------------------|-------------------|--------------------|-----------|
| WB17R | WB17R | 0.3 | 2.5 | --- | --- | --- |
| | WB17R | 0.6 | 1.5 | --- | --- | --- |
| | WB17R | 0.9 | 2.0 | --- | --- | --- |
| | WB17R | 1.5 | 2.5 | --- | --- | --- |
| WB18L | WB18L | 0.0 | 68 | 2.6 | --- | --- |
| | WB18L | 0.3 | 74 | 3.8 | --- | --- |
| WB18R | WB18R | 0.0 | 47 | --- | --- | --- |
| WB19L | WB19L | 0.0 | 100 | 2.8 | --- | --- |
| | WB19L | 0.3 | 18 | --- | --- | --- |
| | WB19L | 0.6 | 25 | --- | --- | --- |
| WB19R | WB19R | 0.0 | 65 | 2.5 | --- | --- |
| | WB19R | 0.3 | 27 | --- | --- | --- |
| | WB19R | 0.6 | 78 | 3.5 | --- | --- |
| WB20 | WB20 | 0.0 | 82 | 0.48 | --- | --- |
| | WB20 | 0.3 | 5.9 | --- | --- | --- |
| WB21 | WB21 | 0.0 | 120 | 6* | --- | --- |
| | WB21 | 0.3 | 14 | --- | --- | --- |
| WB22 | WB22 | 0.0 | 48 | --- | --- | --- |
| Eastbound Detour Structures | | | | | | |
| EB2L | EB2L | 0.0 | 3800 | --- | --- | --- |
| | EB2L | 0.3 | 9.0 | --- | --- | --- |
| | EB2L | 0.6 | 91 | 8.1 | 0.36 | --- |
| | EB2L | 0.9 | 3.0 | --- | --- | --- |
| | EB2L | 1.5 | 2.5 | --- | --- | --- |
| EB2R Set 1 | EB2R | 0.0 | 37 | --- | --- | --- |
| | EB2R | 0.3 | 120 | 5.0 | 0.73 | 5.34 |
| | EB2R | 0.6 | 74 | 2.5 | --- | --- |
| | EB2R | 0.9 | 9.9 | --- | --- | --- |
| | EB2R | 1.5 | <5 | --- | --- | --- |
| | EB2R | 2.4 | <5 | --- | --- | --- |

TABLE 5
SUMMARY OF LEAD: TOTAL, WET, and TCLP with pH
ANALYTICAL RESULTS - SOIL
SFOBB EAST SPAN ON YERBA BUENA ISLAND IN SAN FRANCISCO COUNTY

| Bent ID | Boring ID | Sample Depth (meters) | Total Lead (mg/kg) | WET (mg/L) | TCLP (mg/L) | pH |
|---------|-----------|-----------------------|--------------------|------------|-------------|------|
| EB2R | EB2R | 0.0 | 480 | 27 | <0.15 | 4.88 |
| Set 2 | EB2R | 0.3 | 130 | 3.0 | --- | --- |
| | EB2R | 0.6 | 61 | 2.5 | --- | --- |
| | EB2R | 0.9 | 41 | --- | --- | --- |
| | EB2R | 1.5 | 33 | --- | --- | --- |
| | EB2R | 2.4 | 14 | --- | --- | --- |
| | EB2C | EB2C | 0.0 | 49 | --- | --- |
| EB2C | EB2C | 0.3 | 140 | 5.5 | 0.60 | --- |
| | EB2C | 0.6 | 73 | 2.5 | --- | --- |
| | EB2C | 0.9 | 16 | --- | --- | --- |
| | EB2C | 1.5 | <5 | --- | --- | --- |
| | EB2C | 2.4 | 6.0 | --- | --- | --- |
| | EB3C | EB3C | 0.0 | 53 | 2.5 | --- |
| EB3C | EB3C | 0.3 | 60 | 2.2 | --- | --- |
| | EB3C | 0.6 | <5 | --- | --- | --- |
| | EB3C | 0.9 | 5.6 | --- | --- | --- |
| | EB3C | 1.5 | 6.3 | --- | --- | --- |
| | EB3C | 2.4 | <5 | --- | --- | --- |
| | EB4L | EB4L | 0.0 | 47 | --- | --- |
| EB4L | EB4L | 0.3 | 14 | --- | --- | --- |
| | EB4L | 0.6 | 9.5 | --- | --- | --- |
| | EB4R | EB4R | 0.3 | 32 | --- | --- |
| EB4R | EB4R | 0.6 | 49 | --- | --- | --- |
| | EB4R | 0.9 | 98 | 330 | --- | 7.48 |
| | EB4R | 1.5 | <5 | --- | --- | --- |
| | EB4R | 3.7 | 5.7 | --- | --- | --- |
| | EB5L | EB5L | 0.0 | 110 | 13 | 0.30 |
| EB5L | EB5L | 0.3 | 290 | 7.8 | --- | --- |
| | EB5L | 0.6 | 8.1 | --- | --- | --- |
| | EB5L | 0.9 | 30 | --- | --- | --- |
| | EB5L | 1.5 | 30 | --- | --- | --- |
| | EB5L | 4.0 | <5 | --- | --- | --- |
| | EB5C | EB5C | 0.0 | 37 | --- | --- |
| EB5C | EB5C | 0.3 | 96 | 2.9 | --- | --- |
| | EB5C | 0.6 | 75 | 6.4 | 0.47 | --- |

TABLE 5
SUMMARY OF LEAD: TOTAL, WET, and TCLP with pH
ANALYTICAL RESULTS - SOIL
SFOBB EAST SPAN ON YERBA BUENA ISLAND IN SAN FRANCISCO COUNTY

| Bent ID | Boring ID | Sample Depth (meters) | Total Lead (mg/kg) | WET (mg/L) | TCLP (mg/L) | pH |
|----------------|------------------|------------------------------|---------------------------|-------------------|--------------------|-----------|
| EB5R | EB5R | 0.0 | 140 | 6.2 | --- | --- |
| | EB5R | 0.3 | 120 | 5.4 | 0.52 | --- |
| | EB5R | 0.6 | 130 | 5.3 | --- | 7.44 |
| | EB5R | 0.9 | 99 | 5.8 | --- | --- |
| | EB5R | 1.2 | 75 | 4.0 | --- | --- |
| EB6L | EB6L | 0.0 | 38 | --- | --- | --- |
| | EB6L | 0.3 | 29 | --- | --- | --- |
| | EB6L | 0.6 | 15 | --- | --- | --- |
| | EB6L | 0.9 | 15 | --- | --- | --- |
| EB6R | EB6R | 0.3 | 48 | --- | --- | --- |
| | EB6R | 0.6 | 14 | --- | --- | --- |
| | EB6R | 0.9 | 48 | --- | --- | --- |
| | EB6R | 1.5 | 140 | 4.6 | --- | --- |
| | EB6R | 2.4 | 5.5 | --- | --- | --- |
| EB7L | EB7L | 0.3 | <5 | --- | --- | --- |
| | EB7L | 0.6 | 8.6 | --- | --- | --- |
| | EB7L | 0.9 | <5 | --- | --- | --- |
| EB7R | EB7R | 0.0 | <5 | --- | --- | --- |
| | EB7R | 0.3 | <5 | --- | --- | --- |
| | EB7R | 0.6 | 550 | 0.95 | 0.22 | 9.01 |
| | EB7R | 0.9 | 40 | --- | --- | --- |
| | EB7R | 1.2 | <5 | --- | --- | --- |
| | EB7R | 1.5 | 16 | --- | --- | --- |
| EB8L | EB8L | 0.3 | 11 | --- | --- | --- |
| | EB8L | 0.6 | 5.5 | --- | --- | --- |
| | EB8L | 0.9 | 6.0 | --- | --- | --- |
| | EB8L | 1.2 | 46 | --- | --- | --- |
| EB8R | EB8R | 0.0 | <5 | --- | --- | --- |
| | EB8R | 0.3 | 170 | 10 | 0.32 | --- |
| | EB8R | 0.6 | 41 | --- | --- | --- |
| | EB8R | 0.9 | 19 | --- | --- | --- |
| EB9L | EB9L | 0.3 | 110 | 5.5 | --- | --- |
| | EB9L | 0.6 | <5 | --- | --- | --- |
| | EB9L | 0.9 | <5 | --- | --- | --- |
| | EB9L | 1.5 | 6.9 | --- | --- | --- |
| | EB9L | 2.1 | <5 | --- | --- | --- |

TABLE 5
SUMMARY OF LEAD: TOTAL, WET, and TCLP with pH
ANALYTICAL RESULTS - SOIL
SFOBB EAST SPAN ON YERBA BUENA ISLAND IN SAN FRANCISCO COUNTY

| Bent ID | Boring ID | Sample Depth (meters) | Total Lead (mg/kg) | WET (mg/L) | TCLP (mg/L) | pH |
|---------|-----------|-----------------------|--------------------|------------|-------------|------|
| EB9R | EB9R | 0.3 | 39 | --- | --- | --- |
| | EB9R | 0.6 | <5 | --- | --- | --- |
| | EB9R | 0.9 | 5.9 | --- | --- | --- |
| | EB9R | 1.5 | 6.6 | --- | --- | --- |
| EB10L | EB10L | 0.0 | 260 | 8.0 | 0.9 | 6.45 |
| | EB10L | 0.3 | 27 | --- | --- | --- |
| | EB10L | 0.6 | 20 | --- | --- | --- |
| | EB10L | 0.9 | 67 | 3.1 | --- | --- |
| | EB10L | 1.5 | 20 | --- | --- | --- |
| | EB10L | 3.1 | 97 | 11 | 0.44 | --- |
| EB10R | EB10R | 0.0 | 60 | 2.4 | --- | --- |
| | EB10R | 0.3 | 34 | --- | --- | --- |
| | EB10R | 0.6 | 120 | 0.74 | --- | 8.83 |
| | EB10R | 0.9 | 5.5 | --- | --- | --- |
| | EB10R | 1.5 | 9.5 | --- | --- | --- |
| EB11L | EB11L | 0.3 | <5 | --- | --- | --- |
| | EB11L | 0.6 | <5 | --- | --- | --- |
| | EB11L | 0.9 | <5 | --- | --- | --- |
| | EB11L | 1.5 | <5 | --- | --- | --- |
| | EB11L | 2.1 | <5 | --- | --- | --- |
| EB11R | EB11R | 0.0 | 290 | 0.87 | --- | --- |
| | EB11R | 0.3 | 94 | 0.88 | --- | --- |
| | EB11R | 0.6 | 140 | 6.1 | --- | --- |
| | EB11R | 0.9 | 230 | 9.0 | 0.40 | 9.05 |
| | EB11R | 1.5 | 71 | 7.8 | --- | --- |
| EB12L | EB12L | 0.0 | 80 | 0.52 | --- | --- |
| | EB12L | 0.3 | 12 | --- | --- | --- |
| | EB12L | 0.6 | 9.0 | --- | --- | --- |
| | EB12L | 0.9 | 3.5 | --- | --- | --- |
| | EB12L | 1.5 | 2.0 | --- | --- | --- |
| EB12R | EB12R | 0.0 | 15 | --- | --- | --- |
| | EB12R | 0.3 | <5 | --- | --- | --- |
| | EB12R | 0.6 | <5 | --- | --- | --- |
| | EB12R | 0.9 | 9.2 | --- | --- | --- |
| | EB12R | 1.5 | 9.2 | --- | --- | --- |

TABLE 5
SUMMARY OF LEAD: TOTAL, WET, and TCLP with pH
ANALYTICAL RESULTS - SOIL
SFOBB EAST SPAN ON YERBA BUENA ISLAND IN SAN FRANCISCO COUNTY

| Bent ID | Boring ID | Sample Depth (meters) | Total Lead (mg/kg) | WET (mg/L) | TCLP (mg/L) | pH |
|----------------|------------------|------------------------------|---------------------------|-------------------|--------------------|-----------|
| EB13L | EB13L | 0.0 | 140 | 3.2 | --- | 8.38 |
| | EB13L | 0.3 | 18 | --- | --- | --- |
| | EB13L | 0.6 | 110 | 4.2 | --- | --- |
| | EB13L | 0.9 | <5 | --- | --- | --- |
| | EB13L | 1.5 | 110 | 3.4 | --- | --- |
| | EB13L | 3.4 | 45 | --- | --- | --- |
| EB13R | EB13R | 0.0 | 200 | 12 | --- | 7.51 |
| | EB13R | 0.3 | 120 | 1.5 | --- | --- |
| | EB13R | 0.6 | 220 | 5.8 | 1.0 | --- |
| | EB13R | 0.9 | 11 | --- | --- | --- |
| | EB13R | 1.5 | 1700 | --- | --- | --- |
| EB14L | EB14L | 0.0 | 49 | --- | --- | --- |
| | EB14L | 0.3 | 420 | --- | 1.5 | --- |
| | EB14L | 0.6 | 78 | 3.3 | --- | --- |
| | EB14L | 0.9 | 91 | 3.3 | --- | --- |
| | EB14L | 1.5 | 500 | 19 | 1.0 | 7.77 |
| EB14R | EB14R | 0.0 | 410 | 74 | 0.81 | --- |
| | EB14R | 0.3 | 140 | 0.47 | --- | --- |
| | EB14R | 0.6 | 110 | 0.56 | --- | --- |
| | EB14R | 0.9 | 1500 | --- | --- | --- |
| | EB14R | 1.5 | 2600 | --- | --- | --- |
| | EB14R | 3.4 | 580 | 240 | 8.4 | 8.96 |
| EB15L | EB15L | 0.0 | 160 | 3.3 | --- | --- |
| | EB15L | 0.3 | 850 | --- | 18 | 7.18 |
| | EB15L | 0.6 | 610 | 97 | 0.52 | --- |
| | EB15L | 0.9 | 4100 | --- | --- | --- |
| EB15R | EB15R | 0.0 | 660 | --- | <0.15 | --- |
| | EB15R | 0.3 | 680 | 130 | 0.21 | --- |
| | EB15R | 0.6 | 1800 | --- | --- | --- |
| | EB15R | 0.9 | 410 | 42 | 1.9 | --- |
| | EB15R | 1.5 | 1400 | --- | --- | --- |
| EB16 | EB16 | 0.0 | 49 | --- | --- | --- |
| | EB16 | 0.3 | 27 | --- | --- | --- |
| | EB16 | 0.6 | 330 | 17 | 0.44 | --- |
| | EB16 | 0.9 | 240 | 17 | --- | --- |

TABLE 5
SUMMARY OF LEAD: TOTAL, WET, and TCLP with pH
ANALYTICAL RESULTS - SOIL
SFOBB EAST SPAN ON YERBA BUENA ISLAND IN SAN FRANCISCO COUNTY

| Bent ID | Boring ID | Sample Depth (meters) | Total Lead (mg/kg) | WET (mg/L) | TCLP (mg/L) | pH |
|--|------------------|------------------------------|---------------------------|-------------------|--------------------|-----------|
| EB17 | EB17 | 0.0 | 1900 | --- | --- | --- |
| | EB17 | 0.3 | 350 | 3.9 | <0.15 | --- |
| | EB17 | 0.6 | 7.0 | --- | --- | --- |
| | EB17 | 0.9 | 20 | --- | --- | --- |
| <i>Transition Structure Eastbound off-ramp</i> | | | | | | |
| W7E | W7EC | 0.0 | 340 | --- | --- | --- |
| | W7EC | 0.3 | 56 | --- | --- | --- |
| | W7EC | 0.6 | 52 | --- | --- | --- |
| | W7EC | 3.1 | <5 | --- | --- | --- |
| | W7ED | 0.0 | 12 | --- | --- | --- |
| | W7ED | 0.3 | 160 | --- | --- | --- |
| | W7ED | 0.6 | 25 | --- | --- | --- |
| | W7EC,D | 0.0 | 790 | --- | 0.46 | 7.42 |
| | W7EC,D | 0.3 | 120 | 6.2 | --- | --- |
| | W7EC,D | 0.6 | 69 | 2.1 | --- | --- |
| | W7EC,D | 0.9 | 68 | 2.0 | --- | 7.44 |
| W7EC,D | 1.5 | 9.4 | --- | --- | --- | |
| W8E | W8EC | 0.0 | 30 | --- | --- | --- |
| | W8EC | 0.3 | 8.0 | --- | --- | --- |
| | W8EC | 0.6 | 6.0 | --- | --- | --- |
| | W8ED | 0.0 | 580 | 34 | <0.15 | 7.11 |
| | W8ED | 0.3 | 35 | --- | --- | --- |
| | W8ED | 0.6 | 23 | --- | --- | --- |
| W9E | W9EC | 0.0 | 42 | --- | --- | --- |
| | W9EC | 0.3 | 21 | --- | --- | --- |
| | W9EC | 0.6 | 9.5 | --- | --- | --- |
| | W9EC | 0.9 | 27 | --- | --- | --- |
| W10E | W10ED | 0.0 | 41 | --- | --- | --- |
| | W10ED | 0.3 | 43 | --- | --- | --- |
| | W10ED | 0.6 | 7.1 | --- | --- | --- |
| | W10ED | 0.9 | 22 | --- | --- | --- |
| | W10ED | 1.5 | 34 | --- | --- | --- |
| | W10EA,B,C | 0.0 | 170 | 3.6 | --- | --- |
| | W10EA,B,C | 0.3 | <5 | --- | --- | --- |
| | W10EA,B,C | 0.6 | 27 | --- | --- | --- |
| | W10EA,B,C | 0.9 | 26 | --- | --- | --- |
| | W10EA,B | 1.5 | 12 | --- | --- | --- |
| | W10EA,B | 2.7, 3.1 | 2.5 | --- | --- | --- |

TABLE 5
SUMMARY OF LEAD: TOTAL, WET, and TCLP with pH
ANALYTICAL RESULTS - SOIL
SFOBB EAST SPAN ON YERBA BUENA ISLAND IN SAN FRANCISCO COUNTY

| Bent ID | Boring ID | Sample Depth (meters) | Total Lead (mg/kg) | WET (mg/L) | TCLP (mg/L) | pH |
|------------------------------|------------|-----------------------|--------------------|------------|-------------|------|
| <i>Transition Structures</i> | | | | | | |
| W2L | W2LC | 0.0 | 110 | --- | --- | --- |
| | W2LC | 0.3 | 10 | --- | --- | --- |
| | W2LC | 0.6 | 10 | --- | --- | --- |
| | W2LC | 0.6 | 8.5 | --- | --- | --- |
| | W2LD | 0.0 | 46 | --- | --- | --- |
| | W2LD | 0.3 | 20 | --- | --- | --- |
| | W2LC,D | 0.0 | 38 | --- | --- | --- |
| | W2LC,D | 0.3 | 52 | <10 | --- | 6.24 |
| W2R | W2RA | 0.0 | 94 | --- | --- | --- |
| | W2RA | 0.3 | 24 | --- | --- | --- |
| re-run | W2RA | 0.3 | 160 | --- | --- | --- |
| | W2RB | 0.0 | 60 | --- | --- | --- |
| | W2RA,B | 0.0 | 50 | 5.5 | 0.22 | --- |
| W3L | W3LA | 0.0 | 7.0 | --- | --- | --- |
| | W3LA | 0.3 | 9.0 | --- | --- | --- |
| | W3LB | 0.0 | 30 | --- | --- | --- |
| | W3LC | 0.0 | 34 | --- | --- | --- |
| | W3LC | 0.3 | 20 | --- | --- | --- |
| | W3LD | 0.0 | 170 | --- | --- | --- |
| | W3LD | 0.3 | 26 | --- | --- | --- |
| | W3LA,B,C,D | 0.0 | 96 | <10 | --- | --- |
| W3LA,C,D | 0.3 | 14 | --- | --- | --- | |
| W3R | W3RA | 0.0 | 7.0 | --- | --- | --- |
| | W3RA | 0.3 | 6.5 | --- | --- | --- |
| | W3RA | 0.6 | 7.0 | --- | --- | --- |
| | W3RB | 0.0 | 17 | --- | --- | --- |
| | W3RB | 0.3 | 7.0 | --- | --- | --- |
| | W3RC | 0.0 | 280 | --- | --- | --- |
| | W3RC | 0.3 | 140 | --- | --- | --- |
| | W3RC | 0.6 | 44 | --- | --- | --- |
| | W3RD | 0.0 | 130 | --- | --- | --- |
| | W3RD | 0.3 | 22 | --- | --- | --- |
| | W3RA,B,C,D | 0.0 | 300 | 14 | 0.92 | --- |
| | W3RA,B,C,D | 0.3 | 7.0 | --- | --- | --- |
| | W3RA,C | 0.6 | 6.5 | --- | --- | --- |

TABLE 5
SUMMARY OF LEAD: TOTAL, WET, and TCLP with pH
ANALYTICAL RESULTS - SOIL
SFOBB EAST SPAN ON YERBA BUENA ISLAND IN SAN FRANCISCO COUNTY

| Bent ID | Boring ID | Sample Depth (meters) | Total Lead (mg/kg) | WET (mg/L) | TCLP (mg/L) | pH |
|----------------|------------------|------------------------------|---------------------------|-------------------|--------------------|-----------|
| W4L | W4LA | 0.0 | 63 | --- | --- | --- |
| | W4LA | 0.3 | 50 | --- | --- | --- |
| | W4LA | 0.6 | 5.0 | --- | --- | --- |
| | W4LB | 0.0 | 200 | 13 | --- | --- |
| | W4LB | 0.3 | 37 | --- | --- | --- |
| | W4LB | 0.6 | 26 | --- | --- | --- |
| | W4LB | 0.9 | 32 | --- | --- | --- |
| | W4LC | 0.0 | <5 | --- | --- | --- |
| | W4LC | 0.3 | 200 | --- | --- | --- |
| | W4LC | 0.6 | 55 | --- | --- | --- |
| | W4LD | 0.0 | 10 | --- | --- | --- |
| | W4LD | 0.3 | 74 | --- | --- | --- |
| | W4LD | 0.6 | <5 | --- | --- | --- |
| | W4LA,C,D | 0.0 | 40 | --- | --- | --- |
| | W4LA,C,D | 0.3 | 240 | 6.9 | 0.36 | --- |
| | W4LA,C,D | 0.6 | <5 | --- | --- | --- |
| | W4LA,C,D | 0.9 | <5 | --- | --- | --- |
| | W4LA,C,D | 1.5 | <5 | --- | --- | --- |
| | W4LC,D | 3.7, 2.1 | <5 | --- | --- | --- |
| | W4R | W4RA | 0.0 | 20 | --- | --- |
| W4RA | | 0.3 | 57 | 1.5 | --- | --- |
| W4RA | | 0.6 | 2.5 | 4.3 | --- | --- |
| W4RA | | 0.9 | 1.5 | --- | --- | --- |
| W4RA | | 1.5 | 24 | --- | --- | --- |
| W4RA | | 7.0 | 3.5 | --- | --- | --- |
| W4RB | | 0.0 | 340 | 22 | 1.2 | --- |
| W4RB | | 0.3 | 44 | --- | --- | --- |
| W4RB | | 0.6 | 3.0 | --- | --- | --- |
| W4RB | | 0.9 | 3.5 | --- | --- | --- |
| W4RB | | 1.5 | 4.5 | --- | --- | --- |
| W4RB | | 7.3 | 9.0 | --- | --- | --- |
| W4RC | | 0.0 | 400 | 24 | 0.76 | 6.01 |
| W4RC | | 0.3 | 2.5 | --- | --- | --- |
| W4RC | | 0.6 | 68 | 4.3 | --- | --- |
| W4RC | | 0.9 | 26 | --- | --- | --- |
| W4RC | | 1.5 | 16 | --- | --- | --- |
| W4RD | | 0.0 | 290 | 22 | 0.52 | --- |
| W4RD | | 0.3 | 130 | 4.4 | --- | 7.75 |
| W4RD | | 0.6 | 64 | 2.7 | --- | --- |
| W4RD | | 0.9 | 26 | --- | --- | --- |
| W4RD | | 1.5 | 82 | 3.5 | --- | --- |
| W4RD | | 2.1 | 100 | 2.2 | --- | --- |

TABLE 5
SUMMARY OF LEAD: TOTAL, WET, and TCLP with pH
ANALYTICAL RESULTS - SOIL
SFOBB EAST SPAN ON YERBA BUENA ISLAND IN SAN FRANCISCO COUNTY

| Bent ID | Boring ID | Sample Depth (meters) | Total Lead (mg/kg) | WET (mg/L) | TCLP (mg/L) | pH |
|----------------|--------------------|------------------------------|---------------------------|-------------------|--------------------|-----------|
| W5AL | W5AL | 0.0 | 8.0 | --- | --- | --- |
| | W5AL | 0.3 | <5 | --- | --- | --- |
| | W5AL | 0.6 | <5 | --- | --- | --- |
| | W5AL | 0.9 | <5 | --- | --- | --- |
| | W5AL | 1.5 | <5 | --- | --- | --- |
| | W5AL | 3.1 | 25 | --- | --- | --- |
| W5L | W5LB | 0.0 | 33 | --- | --- | --- |
| | W5LB | 0.3 | <5 | --- | --- | --- |
| | W5LB | 0.6 | <5 | --- | --- | --- |
| | W5LC | 0.0 | 15 | --- | --- | --- |
| | W5LC | 0.3 | <5 | --- | --- | --- |
| | W5LC | 0.6 | <5 | --- | --- | --- |
| | W5LC | 9.1 | 2.5 | --- | --- | --- |
| | W5LD | 0.0 | 44 | --- | --- | --- |
| | W5LD | 0.3 | <5 | --- | --- | --- |
| | W5LD | 0.6 | 13 | --- | --- | --- |
| | W5LB,C,D | 0.0 | 26 | --- | --- | --- |
| | W5LB,C,D | 0.3 | <5 | --- | --- | --- |
| | W5LB,C,D | 0.6 | <5 | --- | --- | --- |
| | W5LB,C,D | 0.9 | <5 | --- | --- | --- |
| | W5LB,C,D | 1.5 | <5 | --- | --- | --- |
| W5LB,C,D | 3.7 | <5 | --- | --- | --- | |
| W5R | W5RA | 0.0 | 44 | --- | --- | --- |
| | W5RA | 0.3 | <5 | --- | --- | --- |
| | W5RA | 0.6 | <5 | --- | --- | --- |
| | W5RB | 0.0 | 20 | --- | --- | --- |
| | W5RB | 0.3 | <5 | --- | --- | --- |
| | W5RB | 0.6 | 14 | --- | --- | --- |
| | W5RC | 0.0 | 1300 | --- | --- | --- |
| | W5RC | 0.3 | 760 | --- | --- | --- |
| | W5RC | 0.6 | 81 | --- | --- | --- |
| | W5RD | 0.0 | 1300 | --- | --- | --- |
| | W5RD | 0.3 | 1800 | --- | --- | --- |
| | W5RD | 0.6 | 120 | --- | --- | --- |
| | W5RA,B,C,D | 0.0 | 480 | --- | 2.8 | 7.55 |
| | W5RA,B,C,D | 0.3 | 1100 | --- | 1.2 | --- |
| | W5RA,B,C,D | 0.6 | 95 | 2.6 | --- | --- |
| | W5RA,B,C,D | 0.9 | 15 | --- | --- | --- |
| | W5RA,B,C,D | 1.5 | 33 | --- | --- | --- |
| W5RA,B,C,D | 4.3, 4.3, 2.9, 3.7 | 90 | 1.5 | --- | --- | |

TABLE 5
SUMMARY OF LEAD: TOTAL, WET, and TCLP with pH
ANALYTICAL RESULTS - SOIL
SFOBB EAST SPAN ON YERBA BUENA ISLAND IN SAN FRANCISCO COUNTY

| Bent ID | Boring ID | Sample Depth (meters) | Total Lead (mg/kg) | WET (mg/L) | TCLP (mg/L) | pH |
|----------------|------------------|------------------------------|---------------------------|-------------------|--------------------|-----------|
| W6L | W6LA | 0.3 | 18 | --- | --- | --- |
| | W6LA | 0.6 | 21 | --- | --- | --- |
| | W6LB | 0.0 | 33 | --- | --- | --- |
| | W6LB | 0.3 | 18 | --- | --- | --- |
| | W6LB | 0.6 | 20 | --- | --- | --- |
| | W6LC | 0.0 | 16 | --- | --- | --- |
| | W6LC | 0.3 | 19 | --- | --- | --- |
| | W6LC | 0.6 | <5 | --- | --- | --- |
| | W6LD | 0.0 | 25 | --- | --- | --- |
| | W6LD | 0.3 | 19 | --- | --- | --- |
| | W6LD | 0.6 | <5 | --- | --- | --- |
| | W6LB,C,D | 0.0 | 20 | --- | --- | --- |
| | W6LA,B,C,D | 0.3 | 3.0 | --- | --- | --- |
| | W6LA,B,C,D | 0.6 | 2.0 | --- | --- | --- |
| | W6LA,B,C,D | 0.9 | 1.5 | --- | --- | --- |
| | W6LA,B,D | 1.5 | 2.0 | --- | --- | --- |
| | W6LA,B,C,D | 2.7 | <5 | --- | --- | --- |
| | W6C | W6CA | 0.0 | 19 | --- | --- |
| W6CA | | 0.3 | <5 | --- | --- | --- |
| W6CB | | 0.3 | <5 | --- | --- | --- |
| W6CB | | 0.6 | <5 | --- | --- | --- |
| W6CC | | 0.6 | 11 | --- | --- | --- |
| W6CA,B | | 0.3 | 5.2 | --- | --- | --- |
| W6CA,B | | 0.6 | <5 | --- | --- | --- |
| W6CA,B | | 0.9 | <5 | --- | --- | --- |
| W6CA,B | | 1.5 | <5 | --- | --- | --- |

TABLE 5
SUMMARY OF LEAD: TOTAL, WET, and TCLP with pH
ANALYTICAL RESULTS - SOIL
SFOBB EAST SPAN ON YERBA BUENA ISLAND IN SAN FRANCISCO COUNTY

| Bent ID | Boring ID | Sample Depth (meters) | Total Lead (mg/kg) | WET (mg/L) | TCLP (mg/L) | pH |
|----------------|------------------|------------------------------|---------------------------|-------------------|--------------------|-----------|
| W6R | W6RA | 0.0 | 120 | --- | --- | --- |
| | W6RA | 0.3 | 110 | --- | --- | --- |
| | W6RA | 0.6 | 10 | --- | --- | --- |
| | W6RB | 0.0 | 280 | --- | --- | --- |
| | W6RB | 0.3 | 270 | --- | --- | --- |
| | W6RB | 0.6 | 51 | --- | --- | --- |
| | W6RC | 0.0 | 980 | --- | --- | --- |
| | W6RC | 0.3 | 67 | --- | --- | --- |
| | W6RC | 0.6 | 220 | --- | --- | --- |
| | W6RD | 0.0 | 200 | --- | --- | --- |
| | W6RD | 0.3 | 120 | --- | --- | --- |
| | W6RD | 0.6 | 95 | --- | --- | --- |
| | W6RA,B,C,D | 0.0 | 350 | 53 | 0.98 | --- |
| | W6RA,B,C,D | 0.3 | 120 | 6.8 | --- | --- |
| | W6RA,B,C,D | 0.6 | 120 | 3.9 | --- | 8.38 |
| | W6RA,B,C,D | 0.9 | 71 | 3.4 | --- | --- |
| | W6RA,B,C,D | 1.5 | 27 | --- | --- | --- |
| W6RA,B | 5.2, 3.1 | 43 | --- | --- | --- | |
| W7L | W7LA | 0.6 | <5 | --- | --- | --- |
| | W7LC | 0.6 | 34 | --- | --- | --- |
| | W7LD | 0.0 | 320 | --- | --- | --- |
| | W7LD | 0.6 | 8.2 | --- | --- | --- |
| | W7LA,C,D | 0.0 | 580 | --- | 1.0/0.76 | --- |
| | W7LA,C,D | 0.3 | 200 | 32 | 0.79 | --- |
| | W7LA,C,D | 0.6 | 20 | --- | --- | --- |
| | W7LA,C,D | 0.9 | 21 | --- | --- | --- |
| | W7LA,C,D | 1.5 | 54 | 18 | 0.33 | --- |
| | W7LC,D | 3.1, 2.4 | 21 | --- | --- | --- |
| W7C | W7C | 0.0 | <5 | --- | --- | --- |
| | W7C | 0.3 | <5 | --- | --- | --- |
| W7RA/B | W7RA/B | 0.0 | <5 | --- | --- | --- |
| | W7RA/B | 0.3 | <5 | --- | --- | --- |
| | W7RA/B | 0.6 | <5 | --- | --- | --- |
| | W7RA/B | 0.9 | 170 | 9.8 | <0.15 | --- |
| | W7RA/B | 1.5 | 43 | --- | --- | --- |
| | W7RA/B | 2.1 | 7.8 | --- | --- | --- |

TABLE 5
SUMMARY OF LEAD: TOTAL, WET, and TCLP with pH
ANALYTICAL RESULTS - SOIL
SFOBB EAST SPAN ON YERBA BUENA ISLAND IN SAN FRANCISCO COUNTY

| Bent ID | Boring ID | Sample Depth (meters) | Total Lead (mg/kg) | WET (mg/L) | TCLP (mg/L) | pH |
|---------|------------|-----------------------|--------------------|------------|-------------|-----|
| W7R | W7RC | 0.3 | <5 | --- | --- | --- |
| | W7RC | 0.6 | <5 | --- | --- | --- |
| | W7RD | 0.3 | 8.7 | --- | --- | --- |
| | W7RD | 0.6 | 5.3 | --- | --- | --- |
| | W7RC,D | 0.3 | 5.1 | --- | --- | --- |
| | W7RC,D | 0.6 | <5 | --- | --- | --- |
| | W7RC,D | 0.9 | <5 | --- | --- | --- |
| | W7RC,D | 1.5 | <5 | --- | --- | --- |
| | W7RC,D | 5.8, 4.9 | <5 | --- | --- | --- |
| W8L | W8LA | 0.0 | 600 | --- | --- | --- |
| | W8LB | 0.0 | <5 | --- | --- | --- |
| | W8LC | 0.0 | 510 | --- | --- | --- |
| | W8LD | 0.0 | 2300 | --- | --- | --- |
| | W8LA,B,C,D | 0.0 | 1200 | --- | 0.90 | --- |
| | W8LA,B,C,D | 0.3 | 75 | 0.05* | --- | --- |
| | W8LA,B,C,D | 0.6 | 25 | --- | --- | --- |
| | W8LA,B,C,D | 0.9 | 7.9 | --- | --- | --- |
| | W8LA,B,C,D | 1.5 | 21 | --- | --- | --- |
| | W8LA,C,D | 3.1, 3.1, 2.7 | 24 | --- | --- | --- |
| W8C | W8C | 0.0 | 3000 | --- | --- | --- |
| | W8C | 0.3 | 22 | --- | --- | --- |
| W8R | W8R | 0.0 | 3900 | --- | --- | --- |
| | W8R | 0.3 | 150 | 18 | 0.56 | --- |
| | W8R | 0.6 | 14 | --- | --- | --- |
| | W8R | 0.9 | 52 | 1.8 | --- | --- |
| | W8R | 1.5 | 38 | --- | --- | --- |
| W9L | W9LB | 0.3 | 12 | --- | --- | --- |
| | W9LB | 0.6 | 30 | --- | --- | --- |
| | W9LC | 0.0 | 1200 | --- | --- | --- |
| | W9LC | 0.3 | 130 | --- | --- | --- |
| | W9LD | 0.0 | 18 | --- | --- | --- |
| | W9LD | 0.3 | 12 | --- | --- | --- |
| | W9LC,D | 0.0 | 270 | 13 | --- | --- |
| | W9LB,C,D | 0.3 | 7.1 | --- | --- | --- |
| | W9LB,C,D | 0.6 | 15 | --- | --- | --- |
| | W9LB,D | 0.9 | 13 | --- | --- | --- |
| | W9LB,D | 1.5 | 10 | --- | --- | --- |
| | W9LB,D | 3.4, 2.1 | 10 | --- | --- | --- |

TABLE 5
SUMMARY OF LEAD: TOTAL, WET, and TCLP with pH
ANALYTICAL RESULTS - SOIL
SFOBB EAST SPAN ON YERBA BUENA ISLAND IN SAN FRANCISCO COUNTY

| Bent ID | Boring ID | Sample Depth (meters) | Total Lead (mg/kg) | WET (mg/L) | TCLP (mg/L) | pH |
|---------|-----------|-----------------------|--------------------|------------|-------------|-----|
| W9C | W9C | 0.0 | 15 | --- | --- | --- |
| | W9C | 0.3 | 29 | --- | --- | --- |
| | W9C | 0.6 | 12 | --- | --- | --- |
| | W9C | 0.9 | 8.5 | --- | --- | --- |
| | W9C | 1.5 | 10 | --- | --- | --- |
| W9R | W9RC | 0.0 | 20 | --- | --- | --- |
| | W9RC | 0.3 | 9.8 | --- | --- | --- |
| | W9RC | 0.6 | 5.7 | --- | --- | --- |
| W10L | W10LA | 0.9 | <5 | --- | --- | --- |
| | W10LA | 1.5 | <5 | --- | --- | --- |
| | W10LA | 3.1 | <5 | --- | --- | --- |
| | W10LB | 0.0 | 370 | 24 | <0.15 | --- |
| | W10LB | 0.9 | <5 | --- | --- | --- |
| | W10LB | 1.5 | <5 | --- | --- | --- |
| | W10LB | 3.1 | <5 | --- | --- | --- |
| | W10LA,B | 0.3 | <5 | --- | --- | --- |
| W10LA,B | 0.6 | <5 | --- | --- | --- | |
| W10C | W10CB | 0.3 | 6.7 | --- | --- | --- |
| | W10CB | 0.6 | <5 | --- | --- | --- |
| | W10CB | 0.9 | <5 | --- | --- | --- |
| | W10CB | 1.5 | <5 | --- | --- | --- |
| | W10CB | 3.1 | <5 | --- | --- | --- |
| | W10CD | 0.0 | 30 | --- | --- | --- |
| | W10CD | 0.3 | 21 | --- | --- | --- |
| | W10CD | 0.6 | 8.3 | --- | --- | --- |
| | W10CD | 0.9 | <5 | --- | --- | --- |
| | W10CD | 1.5 | <5 | --- | --- | --- |
| | W10CD | 3.1 | 550 | 0.70 | <0.15 | --- |
| W10CB,D | 0.0 | 14 | --- | --- | --- | |
| W10R | W10RB | 0.0 | 8.0 | --- | --- | --- |
| | W10RA,B | 0.3 | 6.7 | --- | --- | --- |
| | W10RA,B | 0.6 | 17 | --- | --- | --- |

TABLE 5
SUMMARY OF LEAD: TOTAL, WET, and TCLP with pH
ANALYTICAL RESULTS - SOIL
SFOBB EAST SPAN ON YERBA BUENA ISLAND IN SAN FRANCISCO COUNTY

| Bent ID | Boring ID | Sample Depth (meters) | Total Lead (mg/kg) | WET (mg/L) | TCLP (mg/L) | pH |
|---------|---|-----------------------|--------------------|------------|-------------|-----|
| W10AL | W10ALA | 0.3 | <5 | --- | --- | --- |
| | W10ALA | 0.6 | <5 | --- | --- | --- |
| | W10ALB | 0.3 | 12 | --- | --- | --- |
| | W10ALB | 0.6 | <5 | --- | --- | --- |
| | W10ALA,B | 0.3 | <5 | --- | --- | --- |
| | W10ALA,B | 0.6 | <5 | --- | --- | --- |
| | W10ALA,B | 0.9 | <5 | --- | --- | --- |
| | W10ALA,B | 1.5 | <5 | --- | --- | --- |
| | W10ALA,B | 4.3, 2.7 | <5 | --- | --- | --- |
| W11R | W11RB | 0.0 | 4.0 | --- | --- | --- |
| | W11RB | 0.3 | 2.5 | --- | --- | --- |
| | W11RB | 0.6 | 2.5 | --- | --- | --- |
| | W11RB | 0.9 | 2.0 | --- | --- | --- |
| | W11RB | 1.5 | 1.5 | --- | --- | --- |
| | W11RB | 3.7 | 1.5 | --- | --- | --- |
| WET | Waste Extraction Test | | | | | |
| TCLP | Toxic Characteristic Leaching Procedure | | | | | |
| mg/kg | milligrams per kilogram | | | | | |
| mg/L | milligrams per Liter | | | | | |
| < | Analyte was not detected above the stated laboratory reporting limit | | | | | |
| --- | Not Analyzed | | | | | |
| dup | duplicate sample analysis | | | | | |
| * | The results for EPA 6010 (WET Lead) were J-flagged. The MDL is 0.001 mg/L | | | | | |

TABLE 6
SUMMARY OF TPHg, TPHd, TPHmo, AHVOCs, SVOCs
ANALYTICAL RESULTS - WATER
SFOBB EAST SPAN ON YBI, SAN FRANCISCO COUNTY

| Sample ID | TPHg (mg/L) | TPHd (mg/L) | TPHmo (mg/L) | VOCs (µg/L) | SVOC (µg/L) |
|------------------------------------|--|-------------|--------------|---|--|
| Eastbound Detour Structures | | | | | |
| EB6R | <0.050* | 160 | --- | <5.0 | ND |
| EB7R | 0.12* | 1200 | --- | <5.0 | ND |
| EB8L | 0.3* | 44 | --- | <5.0 | 2-Methylnaphthalene=13 Phenanthrene=12 |
| EB9L | --- | 3.1 | --- | --- | ND |
| EB10R | --- | 5.6 | --- | --- | ND |
| EB13L | 0.33* | 36 | --- | <5.0 | Phenanthrene=93 |
| EB14R | 0.48* | 440 | --- | <5.0 | ND |
| Transition Structures | | | | | |
| W5LC | 0.57 | 13 | 9.1 | Benzene=0.88 m,p-Xylene = 0.80 o-Xylene=1.6 1,2,4- Trimethylbenzene=6.3 Naphthalene=39 | 2-Methylnaphthalene=68 Fluorene=11 Naphthalene=31 Phenanthrene=11 |
| mg/L | milligrams per Liter | | | | |
| µg/L | micrograms per Liter | | | | |
| --- | Not Analyzed | | | | |
| VOCs | Volatile Organic Compounds | | | | |
| ND | No analytes were reported above laboratory reporting limit | | | | |
| TPH | Total Petroleum Hydrocarbons as g=gasoline, d=diesel, mo=motor oil | | | | |
| SVOCs | Semi-Volatile Organic Compounds | | | | |
| * | Samples contain hydrocarbons within the Gasoline range, but do not match the Gasoline pattern. Quantitation is based on a Gasoline standard. | | | | |

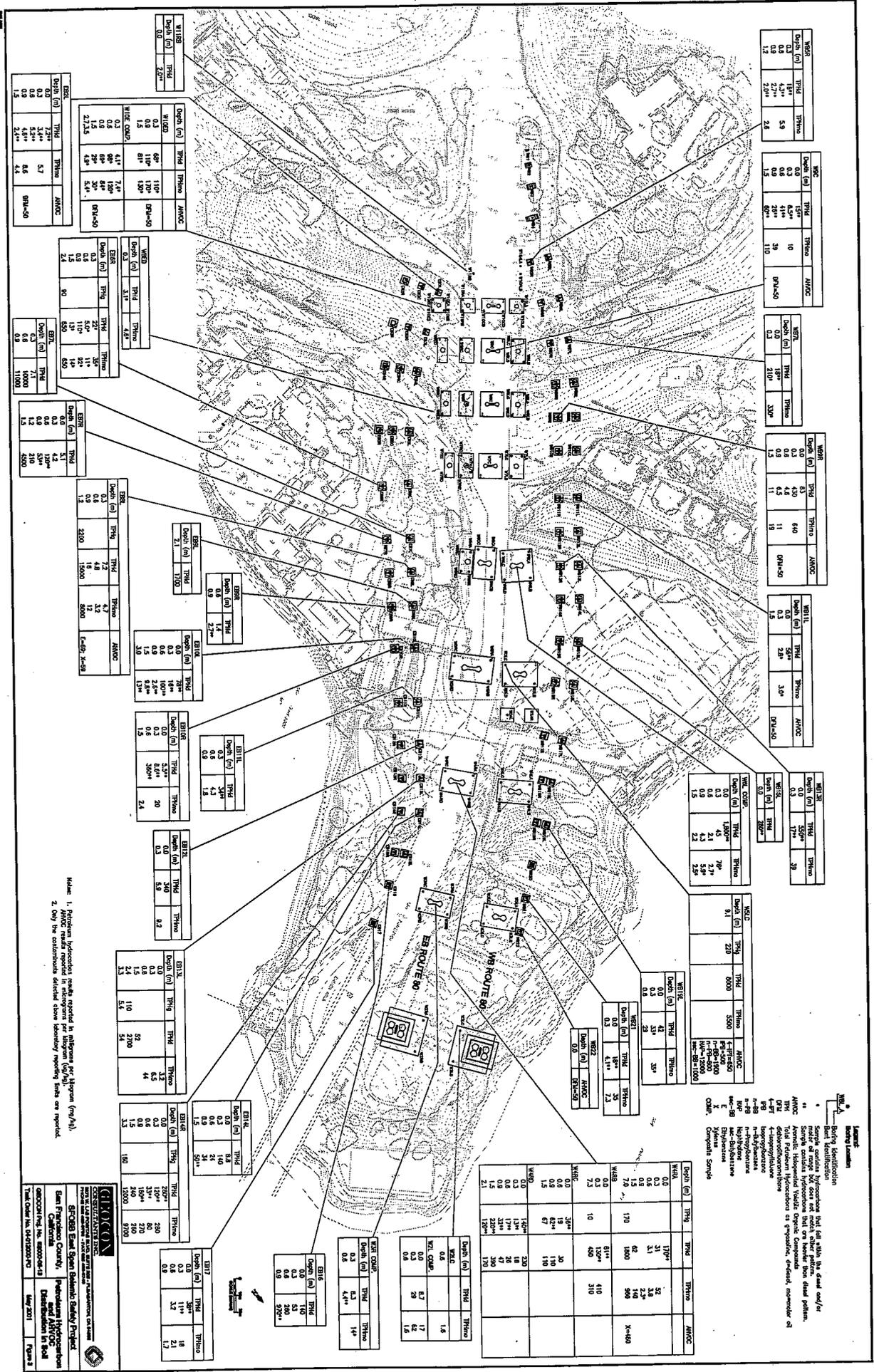
TABLE 7
SUMMARY OF TITLE 22 METALS ANALYTICAL RESULTS
ANALYTICAL RESULTS - GROUNDWATER
SFOBB EAST SPAN ON YERBA BUENA ISLAND IN SAN FRANCISCO COUNTY

| Sample ID | Antimony | Arsenic | Barium | Beryllium | Cadmium | Chromium | Cobalt | Copper | Lead | Mercury | Molybdenum | Nickel | Selenium | Silver | Thallium | Vanadium | Zinc |
|-----------|----------|---------|--------|-----------|---------|----------|--------|--------|------|---------|------------|---------|----------|---------|----------|----------|------|
| W5L | 0.010 | 0.22 | 2.5 | <0.0030 | <0.0030 | 1.2 | 0.34 | 0.27 | 0.10 | <0.0040 | <0.0050 | 1.4 | <0.0050 | <0.0030 | <0.0050 | 0.66 | 0.71 |
| EB13L | 0.0093 | 0.010 | 0.67 | <0.0010 | <0.0030 | <0.0030 | 0.0036 | 0.040 | 0.14 | <0.0040 | 0.010 | <0.0030 | 0.0079 | 0.0096 | <0.0050 | 0.0041 | 0.21 |
| EB14R | 0.010 | 0.030 | 1.1 | <0.0010 | <0.0030 | 0.050 | 0.010 | 0.29 | 4.1 | <0.0040 | 0.010 | 0.040 | 0.0060 | 0.010 | <0.0050 | 0.040 | 2.4 |

Transition Structures

Eastbound Detour Structures

Note: All data is reported in milligrams per Liter
 < Analyte was not detected above the stated laboratory reporting limit



| Depth (ft) | THD | THICK | AMNC |
|------------|-----|-------|------|
| 0.0 | 12" | 3/8" | |
| 0.3 | 18" | 5/8" | |
| 0.9 | 27" | 1" | |
| 1.2 | 20" | 3/4" | |

| Depth (ft) | THD | THICK | AMNC |
|------------|-----|--------|------|
| 0.0 | 12" | 3/8" | |
| 0.3 | 18" | 5/8" | |
| 0.9 | 27" | 1" | |
| 1.5 | 30" | 1 1/4" | |

| Depth (ft) | THD | THICK | AMNC |
|------------|-----|--------|------|
| 0.0 | 12" | 3/8" | |
| 0.3 | 18" | 5/8" | |
| 0.9 | 27" | 1" | |
| 1.5 | 30" | 1 1/4" | |

| Depth (ft) | THD | THICK | AMNC |
|------------|-----|--------|------|
| 0.0 | 12" | 3/8" | |
| 0.3 | 18" | 5/8" | |
| 0.9 | 27" | 1" | |
| 1.5 | 30" | 1 1/4" | |

| Depth (ft) | THD | THICK | AMNC |
|------------|-----|--------|------|
| 0.0 | 12" | 3/8" | |
| 0.3 | 18" | 5/8" | |
| 0.9 | 27" | 1" | |
| 1.5 | 30" | 1 1/4" | |

| Depth (ft) | THD | THICK | AMNC |
|------------|-----|--------|------|
| 0.0 | 12" | 3/8" | |
| 0.3 | 18" | 5/8" | |
| 0.9 | 27" | 1" | |
| 1.5 | 30" | 1 1/4" | |

| Depth (ft) | THD | THICK | AMNC |
|------------|-----|--------|------|
| 0.0 | 12" | 3/8" | |
| 0.3 | 18" | 5/8" | |
| 0.9 | 27" | 1" | |
| 1.5 | 30" | 1 1/4" | |

| Depth (ft) | THD | THICK | AMNC |
|------------|-----|--------|------|
| 0.0 | 12" | 3/8" | |
| 0.3 | 18" | 5/8" | |
| 0.9 | 27" | 1" | |
| 1.5 | 30" | 1 1/4" | |

| Depth (ft) | THD | THICK | AMNC |
|------------|-----|--------|------|
| 0.0 | 12" | 3/8" | |
| 0.3 | 18" | 5/8" | |
| 0.9 | 27" | 1" | |
| 1.5 | 30" | 1 1/4" | |

| Depth (ft) | THD | THICK | AMNC |
|------------|-----|--------|------|
| 0.0 | 12" | 3/8" | |
| 0.3 | 18" | 5/8" | |
| 0.9 | 27" | 1" | |
| 1.5 | 30" | 1 1/4" | |

| Depth (ft) | THD | THICK | AMNC |
|------------|-----|--------|------|
| 0.0 | 12" | 3/8" | |
| 0.3 | 18" | 5/8" | |
| 0.9 | 27" | 1" | |
| 1.5 | 30" | 1 1/4" | |

| Depth (ft) | THD | THICK | AMNC |
|------------|-----|--------|------|
| 0.0 | 12" | 3/8" | |
| 0.3 | 18" | 5/8" | |
| 0.9 | 27" | 1" | |
| 1.5 | 30" | 1 1/4" | |

| Depth (ft) | THD | THICK | AMNC |
|------------|-----|--------|------|
| 0.0 | 12" | 3/8" | |
| 0.3 | 18" | 5/8" | |
| 0.9 | 27" | 1" | |
| 1.5 | 30" | 1 1/4" | |

| Depth (ft) | THD | THICK | AMNC |
|------------|-----|--------|------|
| 0.0 | 12" | 3/8" | |
| 0.3 | 18" | 5/8" | |
| 0.9 | 27" | 1" | |
| 1.5 | 30" | 1 1/4" | |

| Depth (ft) | THD | THICK | AMNC |
|------------|-----|--------|------|
| 0.0 | 12" | 3/8" | |
| 0.3 | 18" | 5/8" | |
| 0.9 | 27" | 1" | |
| 1.5 | 30" | 1 1/4" | |

| Depth (ft) | THD | THICK | AMNC |
|------------|-----|--------|------|
| 0.0 | 12" | 3/8" | |
| 0.3 | 18" | 5/8" | |
| 0.9 | 27" | 1" | |
| 1.5 | 30" | 1 1/4" | |

| Depth (ft) | THD | THICK | AMNC |
|------------|-----|--------|------|
| 0.0 | 12" | 3/8" | |
| 0.3 | 18" | 5/8" | |
| 0.9 | 27" | 1" | |
| 1.5 | 30" | 1 1/4" | |

Notes:
 1. Potable Hydrostatic tests reported in Milligrams Per Gallon (mg/L).
 2. Any other comments should state clearly when reported.

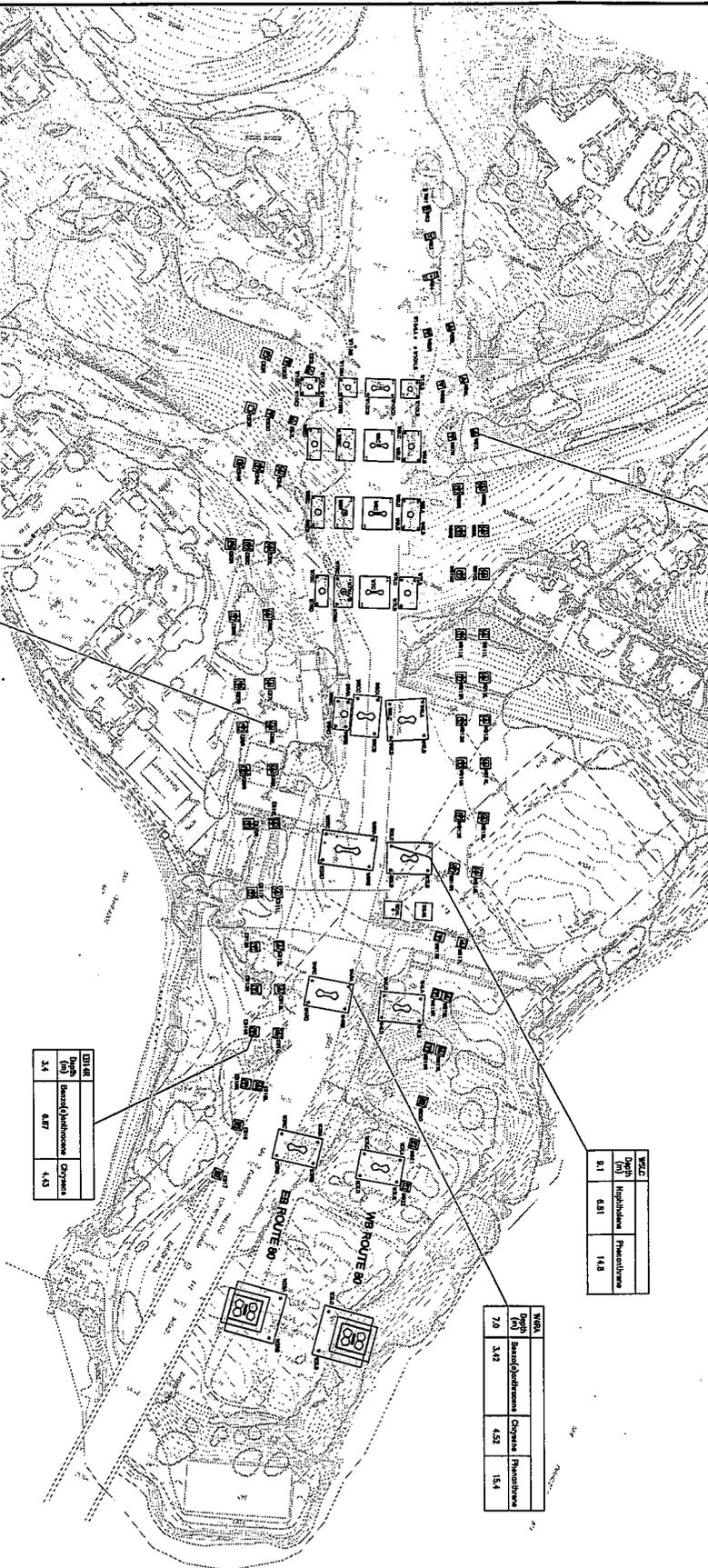
DECON
 DECON CONSULTANTS INC.
 10000 DECON DRIVE
 SUITE 100
 SAN FRANCISCO, CA 94134
 (415) 771-1100
 FAX (415) 771-1101
 WWW.DECON.COM

San Francisco County
 Public Works Department
 10000 DECON DRIVE
 SAN FRANCISCO, CA 94134
 (415) 771-1100
 FAX (415) 771-1101
 WWW.DECON.COM

Project: [Illegible]
 Date: [Illegible]

Legend

Water Main
 12" - 30" Diameter
 36" - 48" Diameter
 60" - 72" Diameter
 84" - 96" Diameter
 108" - 120" Diameter
 144" - 168" Diameter
 192" - 216" Diameter
 252" - 288" Diameter
 324" - 360" Diameter
 396" - 432" Diameter
 468" - 504" Diameter
 540" - 576" Diameter
 612" - 648" Diameter
 684" - 720" Diameter
 756" - 792" Diameter
 828" - 864" Diameter
 900" - 936" Diameter
 972" - 1008" Diameter
 1044" - 1080" Diameter
 1116" - 1152" Diameter
 1188" - 1224" Diameter
 1260" - 1296" Diameter
 1332" - 1368" Diameter
 1404" - 1440" Diameter
 1476" - 1512" Diameter
 1548" - 1584" Diameter
 1620" - 1656" Diameter
 1692" - 1728" Diameter
 1764" - 1800" Diameter
 1836" - 1872" Diameter
 1908" - 1944" Diameter
 1980" - 2016" Diameter
 2052" - 2088" Diameter
 2124" - 2160" Diameter
 2196" - 2232" Diameter
 2268" - 2304" Diameter
 2340" - 2376" Diameter
 2412" - 2448" Diameter
 2484" - 2520" Diameter
 2556" - 2592" Diameter
 2628" - 2664" Diameter
 2700" - 2736" Diameter
 2772" - 2808" Diameter
 2844" - 2880" Diameter
 2916" - 2952" Diameter
 2988" - 3024" Diameter
 3060" - 3096" Diameter
 3132" - 3168" Diameter
 3204" - 3240" Diameter
 3276" - 3312" Diameter
 3348" - 3384" Diameter
 3420" - 3456" Diameter
 3492" - 3528" Diameter
 3564" - 3600" Diameter
 3636" - 3672" Diameter
 3708" - 3744" Diameter
 3780" - 3816" Diameter
 3852" - 3888" Diameter
 3924" - 3960" Diameter
 3996" - 4032" Diameter
 4068" - 4104" Diameter
 4140" - 4176" Diameter
 4212" - 4248" Diameter
 4284" - 4320" Diameter
 4356" - 4392" Diameter
 4428" - 4464" Diameter
 4500" - 4536" Diameter
 4572" - 4608" Diameter
 4644" - 4680" Diameter
 4716" - 4752" Diameter
 4788" - 4824" Diameter
 4860" - 4896" Diameter
 4932" - 4968" Diameter
 5004" - 5040" Diameter
 5076" - 5112" Diameter
 5148" - 5184" Diameter
 5220" - 5256" Diameter
 5292" - 5328" Diameter
 5364" - 5400" Diameter
 5436" - 5472" Diameter
 5508" - 5544" Diameter
 5580" - 5616" Diameter
 5652" - 5688" Diameter
 5724" - 5760" Diameter
 5796" - 5832" Diameter
 5868" - 5904" Diameter
 5940" - 5976" Diameter
 6012" - 6048" Diameter
 6084" - 6120" Diameter
 6156" - 6192" Diameter
 6228" - 6264" Diameter
 6300" - 6336" Diameter
 6372" - 6408" Diameter
 6444" - 6480" Diameter
 6516" - 6552" Diameter
 6588" - 6624" Diameter
 6660" - 6696" Diameter
 6732" - 6768" Diameter
 6804" - 6840" Diameter
 6876" - 6912" Diameter
 6948" - 6984" Diameter
 7020" - 7056" Diameter
 7092" - 7128" Diameter
 7164" - 7200" Diameter
 7236" - 7272" Diameter
 7308" - 7344" Diameter
 7380" - 7416" Diameter
 7452" - 7488" Diameter
 7524" - 7560" Diameter
 7596" - 7632" Diameter
 7668" - 7704" Diameter
 7740" - 7776" Diameter
 7812" - 7848" Diameter
 7884" - 7920" Diameter
 7956" - 7992" Diameter
 8028" - 8064" Diameter
 8100" - 8136" Diameter
 8172" - 8208" Diameter
 8244" - 8280" Diameter
 8316" - 8352" Diameter
 8388" - 8424" Diameter
 8460" - 8496" Diameter
 8532" - 8568" Diameter
 8604" - 8640" Diameter
 8676" - 8712" Diameter
 8748" - 8784" Diameter
 8820" - 8856" Diameter
 8892" - 8928" Diameter
 8964" - 9000" Diameter
 9036" - 9072" Diameter
 9108" - 9144" Diameter
 9180" - 9216" Diameter
 9252" - 9288" Diameter
 9324" - 9360" Diameter
 9396" - 9432" Diameter
 9468" - 9504" Diameter
 9540" - 9576" Diameter
 9612" - 9648" Diameter
 9684" - 9720" Diameter
 9756" - 9792" Diameter
 9828" - 9864" Diameter
 9900" - 9936" Diameter
 9972" - 10008" Diameter



| WELL | Depth (ft) | Flow (gpm) | |
|------|------------|------------|------------|------------|------------|------------|------------|------------|------|
| W01 | 0.0 | 5 | 5.15 | 6.48 | 16.8 | 1.85 | 2.71 | 38.7 | 38.8 |

| WELL | Depth (ft) | Flow (gpm) | Flow (gpm) |
|------|------------|------------|------------|
| W02 | 9.1 | 6.81 | 14.8 |

| WELL | Depth (ft) | Flow (gpm) | Flow (gpm) | Flow (gpm) |
|------|------------|------------|------------|------------|
| W03 | 7.0 | 3.42 | 4.52 | 15.4 |

| TANK | Depth (ft) | Flow (gpm) | Flow (gpm) |
|------|------------|------------|------------|
| T01 | 3.4 | 6.87 | 4.43 |

| ESR | Depth (ft) | Flow (gpm) | Flow (gpm) | Flow (gpm) | |
|------|------------|------------|------------|------------|------|
| ESR1 | 1.2 | 7.88 | 6.43 | 1.3 | 27.8 |

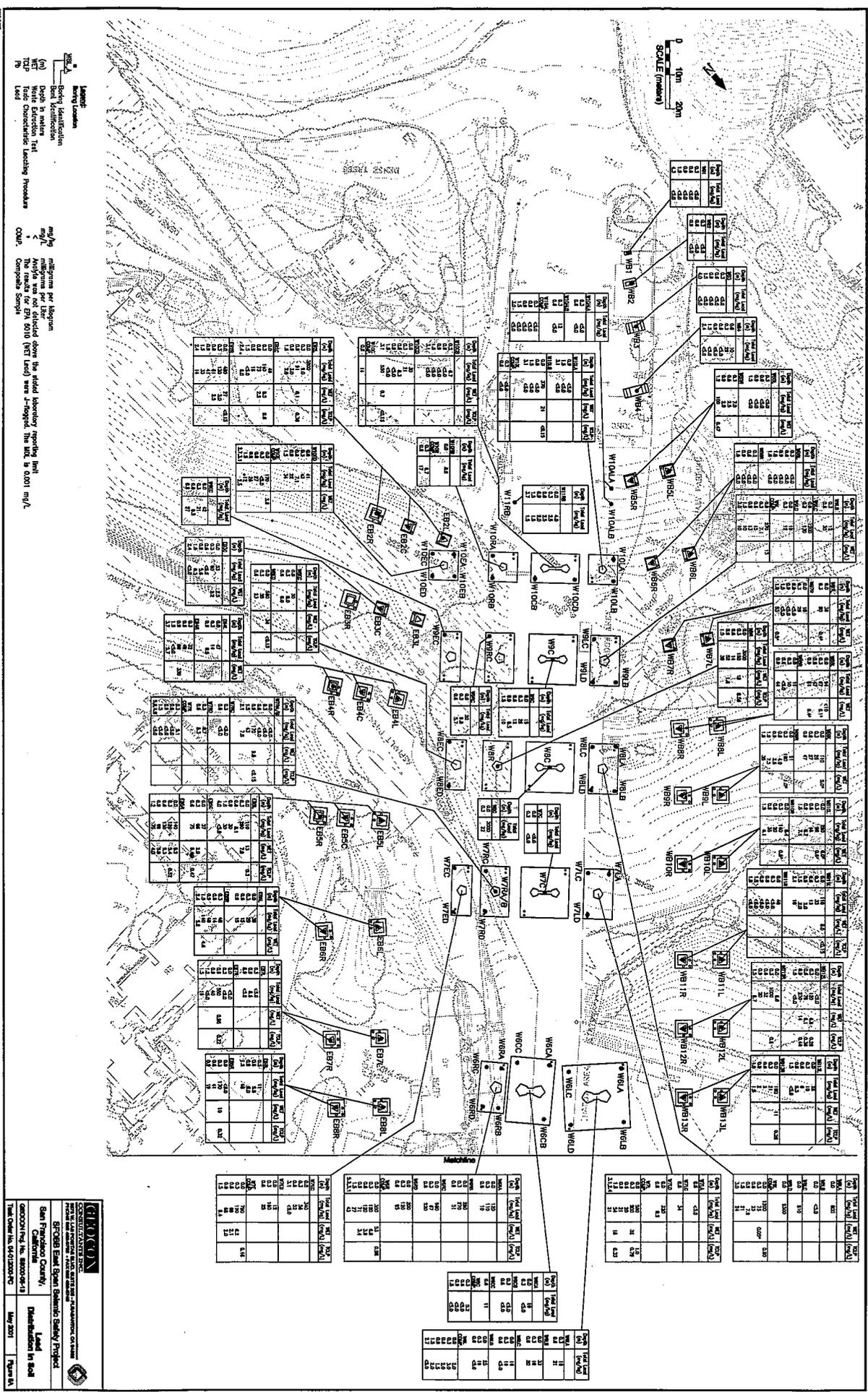
Legend
 Well Identification
 Tank Identification
 Notes:
 1. Results reported in milligrams per liter (mg/L)
 2. Universal Treatment Standard (UTS) are reported

CH2M HILL
 CONSULTANTS INC.
 8700 S. Bascom Avenue, Suite 100
 San Francisco, CA 94128
 Tel: 415.763.1000
 Fax: 415.763.1001
 www.ch2mhill.com

BROWN & CALDWELL
 1000 California Street, Suite 100
 San Francisco, CA 94109
 Tel: 415.774.1000
 Fax: 415.774.1001
 www.brownandcaldwell.com

San Francisco County
 Public Works Department
 Water Division
 Distribution Section
 1000 California Street, Suite 100
 San Francisco, CA 94109
 Tel: 415.376.1000
 Fax: 415.376.1001

Date: April 2001
 Figure 1



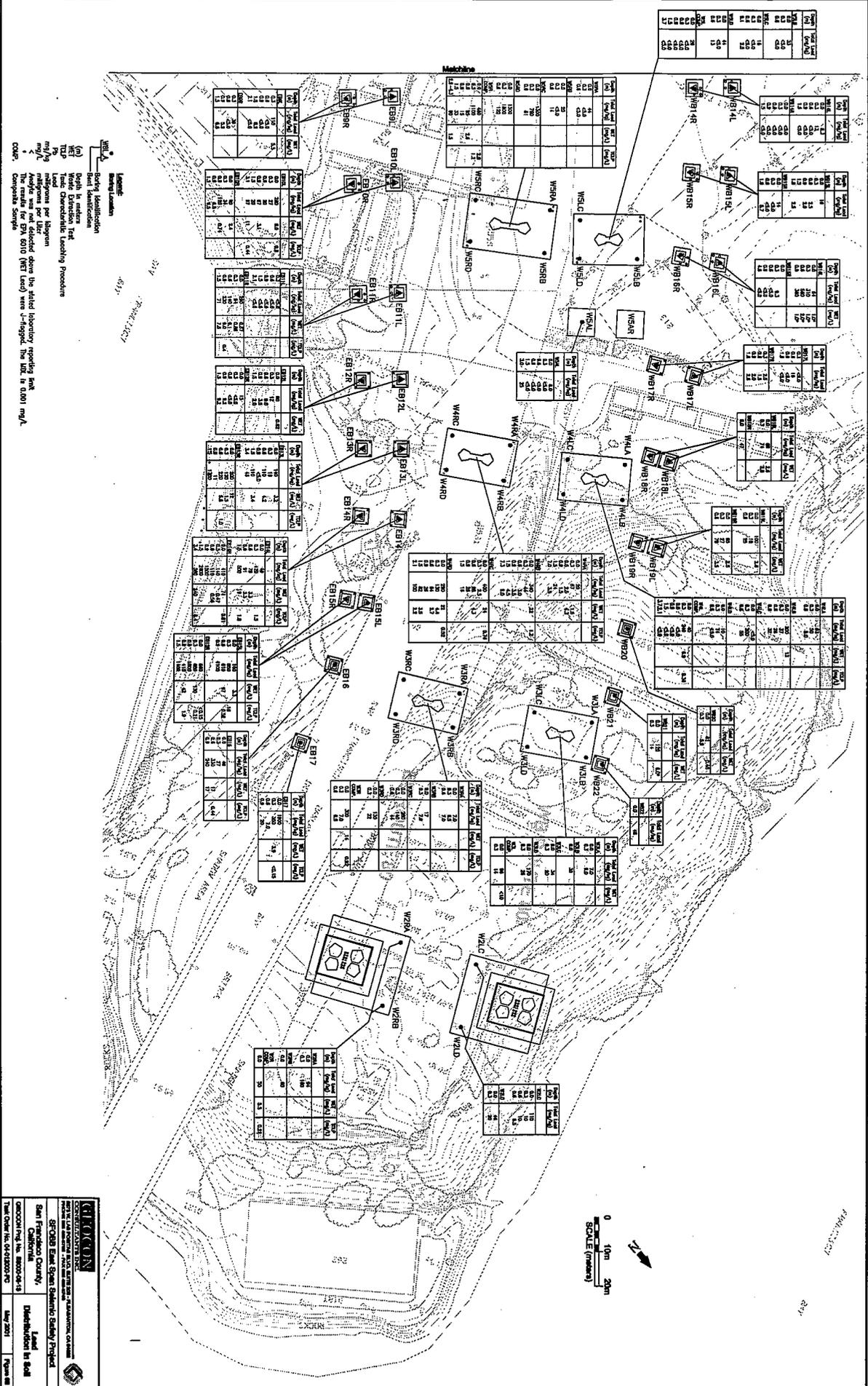
0 10m 20m
 SCALE (Meters)

Legend:
 Soil Identification
 Background Concentration
 Soil Identification
 Water Extension Test
 Road Characteristic Leaching Procedure
 Lead

mg/L
 milligram per liter
 mg/L
 milligram per liter
 The results for EPA 8010 (NIH Lead) were reported. The MCL is 0.05 mg/L.
 Compares Sample

GEOTECHNICAL
 CONSULTANTS INC.
 1000 N. 10th Street, Suite 100
 San Francisco, CA 94103
 (415) 774-1100
 www.geotechnical.com

SFCRB East Bay Regional Sewerage Authority
 San Francisco County
 Lead Concentration in Soil
 GEOTECHNICAL INC. 880008-11
 May 2011 Page 11

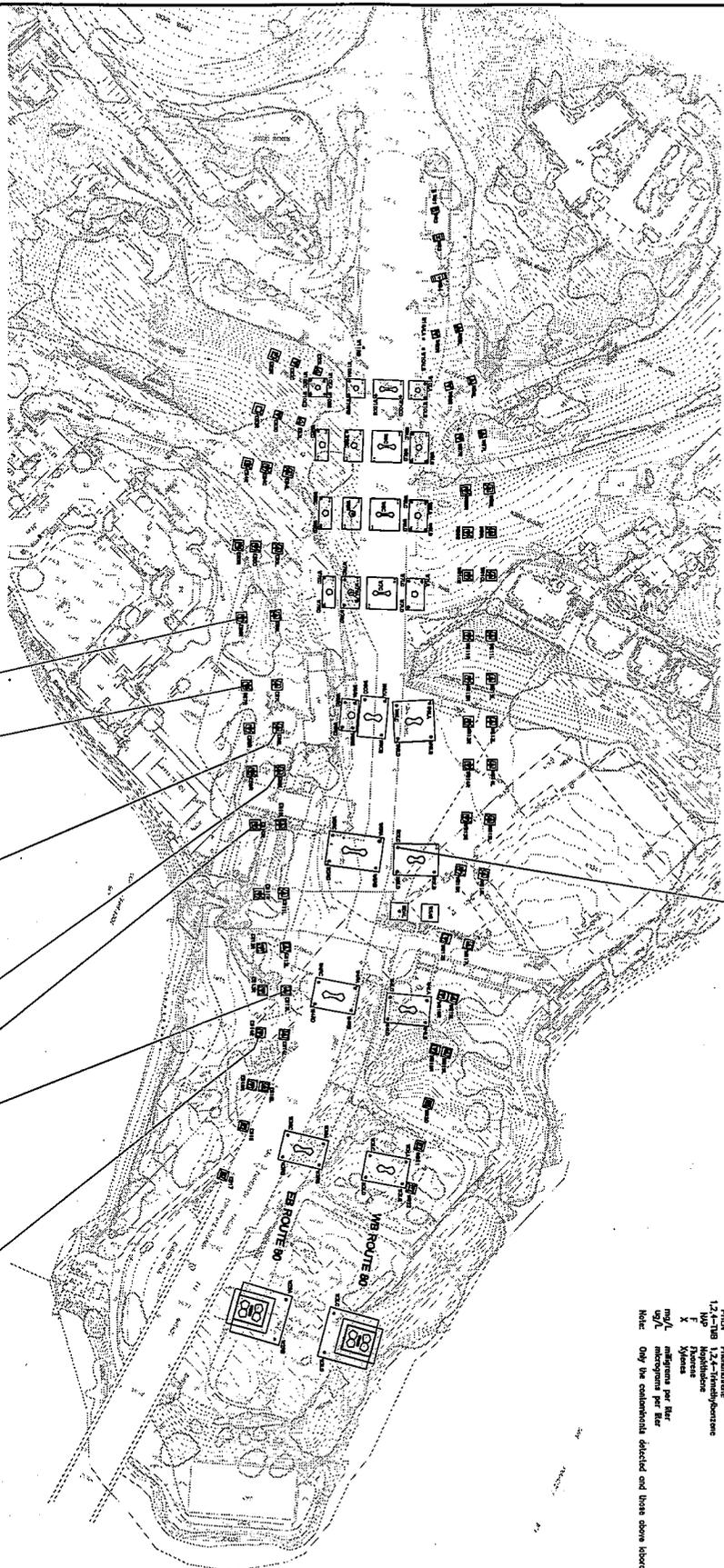


GEOSCON
 CONSULTANTS INC.
 2017 1/2 UNIVERSITY AVENUE, SUITE 200, BERKELEY, CA 94704
 415-841-1111
 www.geoscon.com

SECOB East Ocean Salinity Safety Project
 San Francisco County
 Accounting No. 8000-06-15

Lead in Soil
 Distribution in Soil

May 2011 | Page 88



| WAC | PH1A | PH1B | PH1C | PH1D | PH1E | PH1F | PH1G | PH1H | PH1I | PH1J | PH1K |
|-----|------|------|------|------|------------|------------|------------|------------|------------|------------|------------|
| | 0.37 | 13 | 51 | 51 | 124-108-63 | 124-108-63 | 124-108-63 | 124-108-63 | 124-108-63 | 124-108-63 | 124-108-63 |

| EB1B | TH1B | PH1B |
|------|--------|--------|
| 160 | (mg/L) | (mg/L) |

| EB1C | TH1C | PH1C |
|------|--------|------|
| 0.12 | (mg/L) | 1300 |

| EB1D | TH1D | PH1D |
|------|--------|------|
| 0.30 | (mg/L) | 44 |

| EB1E | TH1E | PH1E |
|-----------|--------|----------|
| 2-400-4-1 | (mg/L) | 7.50E+03 |

| EB1F | TH1F | PH1F |
|------|--------|------|
| 1.1 | (mg/L) | |

| EB1G | TH1G | PH1G |
|------|--------|------|
| 5.8 | (mg/L) | |

| EB1H | TH1H | PH1H |
|------|--------|------|
| 0.33 | (mg/L) | 35 |

| EB1I | TH1I | PH1I |
|------|--------|------|
| 0.48 | (mg/L) | 140 |

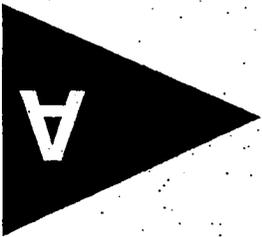
Legend

- Monitoring Point
- Property Boundary
- Water
- Public Road
- Private Road
- Utility
- Structure
- Vegetation
- Topography
- Contour
- Spot Elevation
- Stream
- Well
- Drainage
- Property Line
- Survey
- Boundary
- System

Units

- mg/L: milligrams per liter
- µg/L: micrograms per liter

Note: Only the concentrations detected and those above statutory reporting limits are reported.



APPENDIX

STATE OF CALIFORNIA • DEPARTMENT OF TRANSPORTATION
ENCROACHMENT PERMIT

TR-0120

Permit No. 0401-NSV0126

Dis/Co/Rte/PM

04-SF-80-7.8/9.7

Date

March 8, 2001

Fee Paid

Deposit \$

Performance Bond Amount (1)

Payment Bond Amount (2)

Bond Company

Bond Number (1)

Bond Number (2)

In compliance with (Check one):

Your application of January 10, 2001

Utility Notice No. _____ of _____

Agreement No. _____ of _____

R/W Contract No. _____ of _____

TO: Gecon Consultants, Inc.

5673 W. Las Positas Blvd, Suite 205

Pleasanton, CA 94588

Attn: Matt Hanko

Phone: (925) 469-9750

PERMITTEE

and subject to the following, PERMISSION IS HEREBY GRANTED to:

Drill holes and collect soil samples for the hazardous waste investigation under Task Order # 04-012000-FC for Caltrans Contract # 43A0012, Project EA 012000, on State Highway 04-SF-80, Post Miles 7.8/8.7, at Yerba Buena Island, in the City and County of San Francisco.

Two days before work is started under this permit, notice shall be given to, and approval of construction details, operations, public safety, and traffic control shall be obtained from State Representative Dean Driblos, 380 Foster City Blvd, Foster City, 94404, 415-330-6537, weekdays, between 7:30 AM and 4:00 PM.

Immediately following completion of the work permitted herein, the permittee shall fill out and mail the Notice of Completion attached to this permit.

Certain details of work authorized hereby are shown on plans submitted with this application and/or as directed by the State's Representative.

The following attachments are also included as part of this permit (Check applicable):

In addition to fee, the permittee will be billed actual costs for:

Review Yes No
 Inspection Yes No
 Field Work Yes No

(if any Caltrans effort expended)

General Provisions Yes No
 Utility Maintenance Provisions Yes No
 Special Provisions Yes No
 A Cal-OSHA permit required prior to beginning work: Yes No

Yes No The information in the environmental documentation has been reviewed and considered prior to approval of this permit.

This permit is void unless the work is completed before September 30, 2001.

This permit is to be strictly construed and no other work other than specifically mentioned is hereby authorized. No project work shall be commenced until all other necessary permits and environmental clearances have been obtained.

APPROVED:

HARRY Y. YAHATA, District Director

BY:

S. S. NOZZARI, District Permit Engineer

Gecon Consultants, Inc.
0401-NSV0126
March 8, 2001

In addition to the attached General Provisions, Form TR-0045 (Rev. 8/98), the following special provisions are also applicable:
All utility work shall be performed in accordance with the Department of Transportation Encroachment Permit Utility, Tree Trimming, and Tree Removal Provisions dated August 1, 1998.

Permittee shall furnish, place and maintain required signs, safety equipment, and traffic control and warning devices in accordance with the Manual of Traffic Controls published by the Department of Transportation.
All personnel shall wear hard hats and orange vests, shirts or jackets as appropriate.

Permittee shall abide by San Francisco Department of Public Works construction barrier order.

Unless specifically authorized in this permit, survey markings within the right-of-way shall be temporary. Paint used for markings shall be water soluble and other markers shall be removed upon completion of survey.

Contractor shall verify where all utilities are located prior to drilling.

Boring holes shall be backfilled in accordance with State standards and as directed by the State Representative.

APPENDIX

B

PROJECT NO. E8000-06-13

| DEPTH IN METERS | PENETRAT. RESIST. BLOWS/FT. | SAMPLE NO. | LITHOLOGY | BORING NO. WB1 | | SOIL (USCS) | HEADSPACE (PFM) |
|------------------|-----------------------------|-------------------------|------------------------|---|-------------------|-------------|-----------------|
| | | | | DATE DRILLED 1/31/01 | WATER LEVEL (ATD) | | |
| | | | | EQUIPMENT HAND-AUGER | DRILLER GEOCON | | |
| SOIL DESCRIPTION | | | | | | | |
| | | | 30 CM ASPHALT CONCRETE | | | | |
| 1 | | WB1-1 WB1-2 WB1-3 | | ALLUVIUM Dense, wet, yellowish brown, fine grained SAND | | SP | |
| 2 | | WB1-4 | | | | | |
| 3 | | | | | | | |
| 4 | | | | | | | |
| | | | | REFUSAL - BORING TERMINATED AT 4.27 METERS | | | |

Figure A1, Log of Boring WB1, page 1 of 1

ENV_NO_WELL_YERBA.GPJ 04/10/01

| | |
|----------------------|----------------------------------|
| BORING ELEVATION: NA | ENGINEER/GEOLOGIST: TRAVIS MILLS |
|----------------------|----------------------------------|

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. E8000-06-13

| DEPTH IN METERS | PENETRAT. RESIST. BLOWS/FT. | SAMPLE NO. | LITHOLOGY | BORING NO. WB2 | | SOIL (USCS) | HEADSPACE (PPM) |
|-----------------------|-----------------------------------|---------------|---|--|-------------------|----------------|--------------------|
| | | | | DATE DRILLED 1/31/01 | WATER LEVEL (ATD) | | |
| | | | | EQUIPMENT HAND-AUGER DRILLER GEOCON | | | |
| | | | | SOIL DESCRIPTION | | | |
| | | | | 0.15 METERS ASPHALT CONCRETE | | SP | |
| | | WB2-1 |  | FILL | | | |
| | | WB2-2 |  | SAND, large chunks of debris fill | | | |
| | | WB2-3 |  | ALLUVIUM Dense, brown SAND | | | |
| | | | | REFUSAL - BORING TERMINATED AT APPROXIMATELY 0.91 METERS | | | |

Figure A2, Log of Boring WB2, page 1 of 1

ENV_NO_WELL YERBA.GPJ 04/10/01

| | |
|----------------------|----------------------------------|
| BORING ELEVATION: NA | ENGINEER/GEOLOGIST: TRAVIS MILLS |
|----------------------|----------------------------------|

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. E8000-06-13

| DEPTH IN METERS | PENETRAT. RESIST. BLOWS/FT. | SAMPLE NO. | LITHOLOGY | BORING NO. WB3 | | SOIL (USCS) | HEADSPACE (PPM) |
|-----------------------|-----------------------------------|-------------------------|-----------|--|-------------------------|----------------|--------------------|
| | | | | DATE DRILLED <u>1/31/01</u> | WATER LEVEL (ATD) _____ | | |
| | | | | EQUIPMENT <u>HAND-AUGER</u> DRILLER <u>GEOCON</u> | | | |
| | | | | SOIL DESCRIPTION | | | |
| | | | | 0.30 METERS ASPHALT CONCRETE | | | |
| 1 | | WB3-1 WB3-2 WB3-3 | | Very dense, moist, light brown, fine grained SAND | | SP | |
| 2 | | WB3-4 | | | | | |
| 3 | | | | | | | |
| | | | | | | | |
| | | | | BORING TERMINATED AT 4.27 METERS | | | |

Figure A3, Log of Boring WB3, page 1 of 1

ENV_NO_WELL YERBA.GPJ 04/10/01

| | |
|-----------------------------|---|
| BORING ELEVATION: NA | ENGINEER/GEOLOGIST: TRAVIS MILLS |
|-----------------------------|---|

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. E8000-06-13

| DEPTH IN METERS | PENETRAT. RESIST. BLOWS/FT. | SAMPLE NO. | LITHOLOGY | BORING NO. WB5L | | SOIL (USCS) | HEADSPACE (PPM) |
|-----------------|-----------------------------|------------|-----------|-------------------------------------|-------------------|-------------|-----------------|
| | | | | DATE DRILLED 1/31/01 | WATER LEVEL (ATD) | | |
| | | | | EQUIPMENT HAND-AUGER DRILLER GEOCON | | | |
| | | | | SOIL DESCRIPTION | | | |
| | | | | 0.15 METERS ASPHALT CONCRETE | | | |
| 1 | | WB5L-1 | | Dense, moist, light brown SAND | | SP | |
| | | WB5L-2 | | | | | |
| | | WB5L-3 | | | | | |
| | | WB5L-5 | | BORING TERMINATED AT 1.52 METERS | | | |

Figure A4, Log of Boring WB5L, page 1 of 1

ENV_NO_WELL YERBA.GPJ 04/10/01

| | |
|----------------------|----------------------------------|
| BORING ELEVATION: NA | ENGINEER/GEOLOGIST: TRAVIS MILLS |
|----------------------|----------------------------------|

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. E8000-06-13

| DEPTH IN METERS | PENETRAT. RESIST. BLOWS/FT. | SAMPLE NO. | LITHOLOGY | BORING NO. WB5R | | SOIL (USCS) | HEADSPACE (PPM) |
|------------------|-----------------------------|------------|-----------|--|-------------------|-------------|-----------------|
| | | | | DATE DRILLED 1/31/01 | WATER LEVEL (ATD) | | |
| | | | | EQUIPMENT HAND-AUGER DRILLER GEOCON | | | |
| SOIL DESCRIPTION | | | | | | | |
| | | | | 0.30 METERS ASPHALT CONCRETE | | | |
| 1 | | WB5R-1 | | Very dense, lightly moist, yellowish brown, very fine SAND | | SP | |
| | | WB5R-2 | | | | | |
| | | WB5R-3 | | | | | |
| | | WB5R-4 | | BORING TERMINATED AT 1.22 METERS | | | |

Figure A5, Log of Boring WB5R, page 1 of 1

ENV_NO_WELL YERBA.GPJ 04/10/01

| | |
|----------------------|----------------------------------|
| BORING ELEVATION: NA | ENGINEER/GEOLOGIST: TRAVIS MILLS |
|----------------------|----------------------------------|

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. E8000-06-13

| DEPTH IN METERS | PENETRAT. RESIST. BLOWS/FT. | SAMPLE NO. | LITHOLOGY | BORING NO. WB6L | | SOIL (USCS) | HEADSPACE (PPM) |
|-----------------------|-----------------------------------|---------------|-----------|--|----------------------------------|----------------|--------------------|
| | | | | DATE DRILLED 2/1/01 | WATER LEVEL (ATD) | | |
| | | | | EQUIPMENT HAND-AUGER DRILLER GREGG DRILLING | | | |
| | | | | SOIL DESCRIPTION | | | |
| 1 | | WB6L-1 | | 0.15 METERS ASPHALT CONCRETE | | SP | 0 |
| | | WB6L-2 | | Loose, dry, light brown (10 YR 4/2), fine to medium SAND | | | |
| | | WB6L-3 | | | | | |
| | | WB6L-5 | | | | | |
| | | WB6L-6 | | | | | |
| | | | | | BORING TERMINATED AT 1.83 METERS | | |

Figure A6, Log of Boring WB6L, page 1 of 1

ENV_NO_WELL YERBA.GPJ 04/10/01

| | |
|----------------------|--------------------------------|
| BORING ELEVATION: NA | ENGINEER/GEOLOGIST: MATT HANKO |
|----------------------|--------------------------------|

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. E8000-06-13

| DEPTH IN METERS | PENETRAT. RESIST. BLOWS/FT. | SAMPLE NO. | LITHOLOGY | BORING NO. WB6R | | SOIL (USCS) | HEADSPACE (PPM) |
|-----------------------|-----------------------------------|---------------|-----------|---|-------------------|----------------|--------------------|
| | | | | DATE DRILLED 2/1/01 | WATER LEVEL (ATD) | | |
| | | | | EQUIPMENT <u>HAND-AUGER</u> DRILLER <u>GREGG DRILLING</u> | | | |
| | | | | SOIL DESCRIPTION | | | |
| 1 | | WB6R-1 | ■ | 0.15 METERS ASPHALT CONCRETE | | SP | 0 |
| | | WB6R-2 | ● | Loose, dry, light brown (10 YR 4/2), fine to medium SAND | | | |
| | | WB6R-3 | ● | | | | |
| | | WB6R-5 | ● | | | | |
| | | | | BORING TERMINATED AT 1.52 METERS | | | |

Figure A7, Log of Boring WB6R, page 1 of 1

ENV_NO_WELL YERBA.GPJ 04/10/01

| | |
|----------------------|--------------------------------|
| BORING ELEVATION: NA | ENGINEER/GEOLOGIST: MATT HANKO |
|----------------------|--------------------------------|

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. E8000-06-13

| DEPTH IN METERS | PENETRAT. RESIST. BLOWS/FT. | SAMPLE NO. | LITHOLOGY | BORING NO. WB13L | | SOIL (USCS) | HEADSPACE (PPM) |
|-----------------------|-----------------------------------|---------------|-----------|--|-------------------|----------------|--------------------|
| | | | | DATE DRILLED 1/29/01 | WATER LEVEL (ATD) | | |
| | | | | EQUIPMENT GEOPROBE DRILLER GREGG DRILLING | | | |
| | | | | SOIL DESCRIPTION | | | |
| 1 | | WB13L-0 | | 0.15 METERS ASPHALT CONCRETE | | SP | |
| | | WB13L-1 | | Dry, light brown (10YR 5/3), fine to medium SAND | | | |
| | | WB13L-2 | | | | | |
| | | WB13L-3 | | | | | |
| | | WB13L-5 | | BORING TERMINATED AT 1.52 METERS | | | |

Figure A8, Log of Boring WB13L, page 1 of 1

ENV_NO_WELL YERBAGPJ 04/10/01

| | |
|----------------------|--------------------------------|
| BORING ELEVATION: NA | ENGINEER/GEOLOGIST: MATT HANKO |
|----------------------|--------------------------------|

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. E8000-06-13

| DEPTH IN METERS | PENETRAT. RESIST. BLOWS/FT. | SAMPLE NO. | LITHOLOGY | BORING NO. WB13R | | SOIL (USCS) | HEADSPACE (PPM) |
|-----------------|-----------------------------|------------|-----------|--|-------------------|-------------|-----------------|
| | | | | DATE DRILLED 1/29/01 | WATER LEVEL (ATD) | | |
| | | | | EQUIPMENT GEOPROBE DRILLER GREGG DRILLING | | | |
| | | | | SOIL DESCRIPTION | | | |
| 1 | | WB13R-0 | | 0.15 METERS ASPHALT CONCRETE | | SP | 0 |
| | | WB13R-1 | | Slightly moist, light brown (10 YR 5/3), fine to medium SAND | | | |
| | | WB13R-2 | | | | | |
| | | WB13R-4 | | | | | |
| | | WB13R-5 | | BORING TERMINATED AT 1.52 METERS | | | 0 |

Figure A9, Log of Boring WB13R, page 1 of 1

ENV_NO_WELL YERBA.GPJ 04/10/01

| | |
|----------------------|--------------------------------|
| BORING ELEVATION: NA | ENGINEER/GEOLOGIST: MATT HANKO |
|----------------------|--------------------------------|

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. E8000-06-13

| DEPTH IN METERS | PENETRAT. RESIST. BLOWS/FT. | SAMPLE NO. | LITHOLOGY | BORING NO. WB14L | | SOIL (USCS) | HEADSPACE (PPM) |
|-----------------|-----------------------------|------------|---|---|-------------------|-------------|-----------------|
| | | | | DATE DRILLED 1/29/01 | WATER LEVEL (ATD) | | |
| | | | | EQUIPMENT GEOPROBE DRILLER GREGG DRILLING | | | |
| | | | | SOIL DESCRIPTION | | | |
| 1 | | WB14L-0 |  | 0.15 METERS ASPHALT CONCRETE | | SP | |
| | | WB14L-1 |  | 0.15 METERS GRAVEL SANDSTONE | | | |
| | | WB14L-2 |  | Light brown (10YR 4/2), fine to medium SAND | | | |
| | | WB14L-3 |  | | | | |
| | | WB14L-5 |  | | | | |
| | | | BORING TERMINATED AT 1.52 METERS | | | | |

Figure A11, Log of Boring WB14L, page 1 of 1

ENV_NO_WELL YERBAGPJ 04/10/01

| | |
|----------------------|--------------------------------|
| BORING ELEVATION: NA | ENGINEER/GEOLOGIST: MATT HANKO |
|----------------------|--------------------------------|

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. E8000-06-13

| DEPTH IN METERS | PENETRAT. RESIST. BLOWS/FT. | SAMPLE NO. | LITHOLOGY | BORING NO. WB14R | | SOIL (USCS) | HEADSPACE (PPM) |
|-----------------------|-----------------------------------|---------------|---|---|-------------------|----------------|--------------------|
| | | | | DATE DRILLED 1/29/01 | WATER LEVEL (ATD) | | |
| | | | | EQUIPMENT GEOPROBE DRILLER GREGG DRILLING | | | |
| | | | | SOIL DESCRIPTION | | | |
| 1 | | WB14R-0 |  | 0.15 METERS ASPHALT CONCRETE | | SP | |
| | | WB14R-1 |  | Slightly moist, light brown (10YR 5/3), fine to medium SAND | | | |
| | | WB14R-2 |  | | | | |
| | | WB14R-3 |  | | | | |
| | | WB14R-5 |  | | | | |
| | | | | BORING TERMINATED AT 1.52 METERS | | | |

Figure A10, Log of Boring WB14R, page 1 of 1

ENV_NO_WELL YERBA.GPJ 04/10/01

| | |
|----------------------|--------------------------------|
| BORING ELEVATION: NA | ENGINEER/GEOLOGIST: MATT HANKO |
|----------------------|--------------------------------|

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. E8000-06-13

| DEPTH IN METERS | PENETRAT. RESIST. BLOWS/FT. | SAMPLE NO. | LITHOLOGY | BORING NO. WB15L | | SOIL (USCS) | HEADSPACE (PPM) |
|-----------------|-----------------------------|------------|-----------|--|-------------------|-------------|-----------------|
| | | | | DATE DRILLED 1/29/01 | WATER LEVEL (ATD) | | |
| | | | | EQUIPMENT GEOPROBE DRILLER GREGG DRILLING | | | |
| | | | | SOIL DESCRIPTION | | | |
| 1 | | WB15L-0 | █ | 0.15 METERS ASPHALT CONCRETE | | SP | |
| | | WB15L-1 | ••• | Loose, dry, light brown and dark brown (10YR 5/3 to 10YR 3/2) SAND | | | |
| | | WB15L-2 | ••• | | | | |
| | | WB15L-3 | ••• | | | | |
| | | WB15L-5 | ••• | | | | |
| | | WB15L-6 | ••• | BORING TERMINATED AT 1.83 METERS | | | |

Figure A13, Log of Boring WB15L, page 1 of 1

ENV_NO_WELL YERBA.GPJ 04/10/01

| | |
|----------------------|--------------------------------|
| BORING ELEVATION: NA | ENGINEER/GEOLOGIST: MATT HANKO |
|----------------------|--------------------------------|

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. E8000-06-13

| DEPTH IN METERS | PENETRAT. RESIST. BLOWS/FT. | SAMPLE NO. | LITHOLOGY | BORING NO. WB15R | | SOIL (USCS) | HEADSPACE (PPM) |
|-----------------------|-----------------------------------|---------------|-----------|--|-------------------|----------------|--------------------|
| | | | | DATE DRILLED 1/29/01 | WATER LEVEL (ATD) | | |
| | | | | EQUIPMENT GEOPROBE DRILLER GREGG DRILLING | | | |
| | | | | SOIL DESCRIPTION | | | |
| 1 | | WB15R-0 | | 0.15 METERS ASPHALT CONCRETE | | SP | |
| | | WB15R-1 | | Loose, moist to saturated, dark brown (10 YR 3/2), fine to medium SAND | | | |
| | | WB15R-2 | | | | | |
| | | WB15R-2 | | | | | |
| | | WB15R-5 | | | | | |
| | | WB15R-6 | | BORING TERMINATED AT 1.83 METERS | | | |

Figure A12, Log of Boring WB15R, page 1 of 1

ENV_NO_WELL YERBA.GPJ 04/10/01

| | |
|----------------------|--------------------------------|
| BORING ELEVATION: NA | ENGINEER/GEOLOGIST: MATT HANKO |
|----------------------|--------------------------------|

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. E8000-06-13

| DEPTH IN METERS | PENETRAT. RESIST. BLOWS/FT. | SAMPLE NO. | LITHOLOGY | BORING NO. WB16L | | SOIL (USCS) | HEADSPACE (PPM) |
|-----------------|-----------------------------|------------|---|--|-------------------|-------------|-----------------|
| | | | | DATE DRILLED 1/23/01 | WATER LEVEL (ATD) | | |
| | | | | EQUIPMENT GEOPROBE DRILLER GREGG DRILLING | | | |
| | | | | SOIL DESCRIPTION | | | |
| 1 | | WB16L-0 | [Lithology symbol: vertical line with dots] | TOPSOIL | | SM | |
| | | WB16L-1 | | Loose, damp, black Silty SAND | | | |
| | | WB16L-2 | | Loose, dry to damp, light brown, fine Silty SAND | | SM | |
| | | WB16L-3 | | | | | |
| | | | | BORING TERMINATED AT 1.83 METERS | | | |

Figure A14, Log of Boring WB16L, page 1 of 1

ENV_NO_WELL YERBA.GPJ 04/10/01

| | |
|----------------------|------------------------------------|
| BORING ELEVATION: NA | ENGINEER/GEOLOGIST: WEST BOURGAULT |
|----------------------|------------------------------------|

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. E8000-06-13

| DEPTH IN METERS | PENETRAT. RESIST. BLOWS/FT. | SAMPLE NO. | LITHOLOGY | BORING NO. WB16R | | SOIL (USCS) | HEADSPACE (PPM) |
|-----------------|-----------------------------|------------|-----------|---|-------------------|-------------|-----------------|
| | | | | DATE DRILLED 1/29/01 | WATER LEVEL (ATD) | | |
| | | | | EQUIPMENT GEOPROBE DRILLER GREGG DRILLING | | | |
| | | | | SOIL DESCRIPTION | | | |
| | | | | 0.15 METERS ASPHALT | | | |
| | | | | GRAVEL- BASE MATERIAL | | | |
| | | WB16R-1 | | Loose, slightly moist, dark brown (10YR 3/2), fine to medium SAND | | SP | 0 |
| 1 | | WB16R-2 | | | | | |
| | | WB16R-3 | | | | | |
| | | WB16R-5 | | | | | 0 |
| 2 | | | | | | | |
| 3 | | | | | | | 0 |
| 4 | | | | | | | |
| | | WB16R-15 | | BORING TERMINATED AT 4.57 METERS | | | |

Figure A15, Log of Boring WB16R, page 1 of 1

ENV_NO_WELL YERBA.GPJ 04/10/01

| | |
|----------------------|--------------------------------|
| BORING ELEVATION: NA | ENGINEER/GEOLOGIST: MATT HANKO |
|----------------------|--------------------------------|

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. E8000-06-13

| DEPTH IN METERS | PENETRAT. RESIST. BLOWS/FT. | SAMPLE NO. | LITHOLOGY | BORING NO. WB17L | | SOIL (USCS) | HEADSPACE (PPM) |
|-----------------|-----------------------------|------------|--|---|-------------------|-------------|-----------------|
| | | | | DATE DRILLED 1/29/01 | WATER LEVEL (ATD) | | |
| | | | | EQUIPMENT HAND-AUGER DRILLER GREGG DRILLING | | | |
| | | | | SOIL DESCRIPTION | | | |
| 1 | | WB17L-1 | 0.15 METERS ASPHALT CONCRETE | | | | |
| | | WB17L-2 | GRAVEL - BASE ROCK | | | | |
| | | WB17L-3 | Loose, slightly moist, light brown (10YR 5/3) SAND | | | | |
| | | WB17L-5 | BORING TERMINATED AT 1.52 METERS | | | | |
| | | | | | | | |
| | | | | SP | | | |

Figure A16, Log of Boring WB17L, page 1 of 1

ENV_NO_WELL YERBA.GPJ 04/10/01

| | |
|----------------------|--------------------------------|
| BORING ELEVATION: NA | ENGINEER/GEOLOGIST: MATT HANKO |
|----------------------|--------------------------------|

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. E8000-06-13

| DEPTH IN METERS | PENETRAT. RESIST. BLOWS/FT. | SAMPLE NO. | LITHOLOGY | BORING NO. WB17R | | SOIL (USCS) | HEADSPACE (PPM) |
|-----------------|-----------------------------|------------|---|---|-------------------|-------------|-----------------|
| | | | | DATE DRILLED 1/29/01 | WATER LEVEL (ATD) | | |
| | | | | EQUIPMENT HAND-AUGER DRILLER GREGG DRILLING | | | |
| | | | | SOIL DESCRIPTION | | | |
| 1 | | WB17R-1 |  | 0.15 METERS ASPHALT CONCRETE | | SP | |
| | | WB17R-2 |  | 0.15 METERS GRAVEL | | | |
| | | WB17R-3 |  | Loose, dry, light brown (10YR 5/3), fine to medium SAND | | | |
| | | WB17R-4 | | | | | |
| | | WB17R-5 | | BORING TERMINATED AT 1.52 METERS | | | |

Figure A17, Log of Boring WB17R, page 1 of 1

ENV_NO_WELL YERBA.GPJ 04/10/01

| | |
|----------------------|--------------------------------|
| BORING ELEVATION: NA | ENGINEER/GEOLOGIST: MATT HANKO |
|----------------------|--------------------------------|

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. E8000-06-13

| DEPTH IN METERS | PENETRAT. RESIST. BLOWS/FT. | SAMPLE NO. | LITHOLOGY | BORING NO. WB21 | | SOIL (USCS) | HEADSPACE (PPM) |
|---------------------------------|-----------------------------------|---------------|--|---|-------------------|----------------|--------------------|
| | | | | DATE DRILLED 1/23/01 | WATER LEVEL (ATD) | | |
| | | | | EQUIPMENT GEOPROBE DRILLER GREGG DRILLING | | | |
| SOIL DESCRIPTION | | | | | | | |
| | | WB21-0 | TOPSOIL | | | SM | |
| | | WB21-1 | Loose, damp, black Silty SAND WEATHERED SANDSTONE | | | | |
| BORING TERMINATED AT 0.3 METERS | | | | | | | |

Figure A18, Log of Boring WB21, page 1 of 1

ENV_NO_WELL YERBA.GPJ 04/10/01

| | |
|----------------------|------------------------------------|
| BORING ELEVATION: NA | ENGINEER/GEOLOGIST: WEST BOURGAULT |
|----------------------|------------------------------------|

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. E8000-06-13

| DEPTH IN METERS | PENETRAT. RESIST. BLOWS/FT. | SAMPLE NO. | LITHOLOGY | BORING NO. WB22 | | SOIL (USCS) | HEADSPACE (PPM) |
|-----------------------|-----------------------------------|---------------|---|---|-------------------|----------------|--------------------|
| | | | | DATE DRILLED 1/23/01 | WATER LEVEL (ATD) | | |
| | | | | EQUIPMENT GEOPROBE DRILLER GREGG DRILLING | | | |
| | | | | SOIL DESCRIPTION | | | |
| | | WB22-0 |  | 0.07 METERS TOPSOIL Loose, damp, black Silty SAND WEATHERED SANDSTONE BORING TERMINATED AT 0.30 METERS | | SM | |

Figure A19, Log of Boring WB22, page 1 of 1

ENV_NO_WELL YERBA.GPJ 04/10/01

| | |
|----------------------|------------------------------------|
| BORING ELEVATION: NA | ENGINEER/GEOLOGIST: WEST BOURGAULT |
|----------------------|------------------------------------|

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. E8000-06-13

| DEPTH IN METERS | PENETRAT. RESIST. BLOWS/FT. | SAMPLE NO. | LITHOLOGY | BORING NO. EB4C | | SOIL (USCS) | HEADSPACE (PPM) |
|-----------------|-----------------------------|------------|-----------|---|-------------------|-------------|-----------------|
| | | | | DATE DRILLED 1/29/01 | WATER LEVEL (ATD) | | |
| | | | | EQUIPMENT HAND-AUGER DRILLER GEOCON | | | |
| | | | | SOIL DESCRIPTION | | | |
| | | EB4C-0 | | Moist, dark brown Sandy CLAY with coarse gravel | | ML | |
| | | EB4C-1 | | SANDSTONE GRAVEL | | GM | |
| | | | | REFUSAL - BORING TERMINATED AT 0.46 METERS | | | |

Figure A72, Log of Boring EB4C, page 1 of 1

ENV_NO_WELL YERBA.GPJ 04/10/01

| | |
|----------------------|----------------------------------|
| BORING ELEVATION: NA | ENGINEER/GEOLOGIST: TRAVIS MILLS |
|----------------------|----------------------------------|

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. E8000-06-13

| DEPTH IN METERS | PENETRAT. RESIST. BLOWS/FT. | SAMPLE NO. | LITHOLOGY | BORING NO. EB4L | | SOIL (USCS) | HEADSPACE (PPM) |
|----------------------------------|-----------------------------------|---------------|---|-----------------|-------------------|----------------|--------------------|
| | | | | DATE DRILLED | WATER LEVEL (ATD) | | |
| | | | | 1/29/01 | | | |
| | | | | HAND-AUGER | DRILLER | GEOCON | |
| SOIL DESCRIPTION | | | | | | | |
| | | EB4L-0 | Moist, dark brown Sandy CLAY some fine gravel | | | ML | |
| | | EB4L-1 | | | | | |
| | | EB4L-2 | Yellowish brown, Silty Gravelly SANDSTONE | | | | |
| BORING TERMINATED AT 0.61 METERS | | | | | | | |

Figure A71, Log of Boring EB4L, page 1 of 1

ENV_NO_WELL YERBA.GPJ 04/10/01

BORING ELEVATION: NA

ENGINEER/GEOLOGIST: TRAVIS MILLS

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. E8000-06-13

| DEPTH IN METERS | PENETRAT. RESIST. BLOWS/FT. | SAMPLE NO. | LITHOLOGY | BORING NO. EB4R | | SOIL (USCS) | HEADSPACE (PPM) |
|------------------|-----------------------------|------------|-----------|--|-------------------|-------------|-----------------|
| | | | | DATE DRILLED 1/30/01 | WATER LEVEL (ATD) | | |
| | | | | EQUIPMENT HAND-AUGER DRILLER GEOCON | | | |
| SOIL DESCRIPTION | | | | | | | |
| | | | | 0.15 METERS ASPHALT | | | |
| 1 | | EB4R-1 | | Loose, dry, brown (10YR 4/2), fine Gravelly SAND with coarse angular gravel. | | SP | 0 |
| | | EB4R-2 | | | | | |
| | | EB4R-3 | | | | | |
| 2 | | EB4R-5 | | Loose, slightly moist, brown (10YR 4/2) Clayey SAND | | SM | 0 |
| | | | | | | | |
| 3 | | EB4R-12 | | BORING TERMINATED AT 3.66 METERS | | | |
| | | | | | | | |

Figure A70, Log of Boring EB4R, page 1 of 1

ENV_NO_WELL YERBA.GPJ 04/10/01

| | |
|----------------------|--------------------------------|
| BORING ELEVATION: NA | ENGINEER/GEOLOGIST: MATT HANKO |
|----------------------|--------------------------------|

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. E8000-06-13

| DEPTH IN METERS | PENETRAT. RESIST. BLOWS/FT. | SAMPLE NO. | LITHOLOGY | BORING NO. EB5C | | SOIL (USCS) | HEADSPACE (PPM) |
|-----------------------|-----------------------------------|---------------|---|-------------------------------------|-------------------|----------------|--------------------|
| | | | | DATE DRILLED 1/30/01 | WATER LEVEL (ATD) | | |
| | | | | EQUIPMENT HAND-AUGER DRILLER GEOCON | | | |
| SOIL DESCRIPTION | | | | | | | |
| | | EB5C-0 |  | Loose, brown, fine SAND | | SP | |
| | | EB5C-1 | | | | | |
| | | EB5C-2 | | BORING TERMINATED AT 0.61 METERS | | | |

Figure A74, Log of Boring EB5C, page 1 of 1

ENV_NO_WELL YERBA.GPJ 04/10/01

| | |
|----------------------|----------------------------------|
| BORING ELEVATION: NA | ENGINEER/GEOLOGIST: TRAVIS MILLS |
|----------------------|----------------------------------|

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. E8000-06-13

| DEPTH IN METERS | PENETRAT. RESIST. BLOWS/FT. | SAMPLE NO. | LITHOLOGY | BORING NO. EB5L | | SOIL (USCS) | HEADSPACE (PPM) | |
|-----------------------|-----------------------------------|---------------|-----------|---|-------------------|----------------|--------------------|--|
| | | | | DATE DRILLED 1/30/01 | WATER LEVEL (ATD) | | | |
| | | | | EQUIPMENT HAND-AUGER DRILLER GEOCON | | | | |
| | | | | SOIL DESCRIPTION | | | | |
| | | EB5L-0 | | Brown SAND with 1-inch gravel | | SP | | |
| | | EB5L-1 | | Loose, slightly moist, light brown SAND | | | | |
| 1 | | EB5L-2 | | | | SP | | |
| | | EB5L-3 | | | | | | |
| | | EB5L-5 | | | | | | |
| 2 | | | | | | | | |
| 3 | | | | | | | | |
| | | | | Hard GRAVEL | | GM | | |
| | | EB5L-13 | | BORING TERMINATED AT 3.96 METERS | | | | |

Figure A73, Log of Boring EB5L, page 1 of 1

ENV_NO_WELL YERBA.GPJ 04/10/01

| | |
|----------------------|----------------------------------|
| BORING ELEVATION: NA | ENGINEER/GEOLOGIST: TRAVIS MILLS |
|----------------------|----------------------------------|

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. E8000-06-13

| DEPTH IN METERS | PENETRAT. RESIST. BLOWS/FT. | SAMPLE NO. | LITHOLOGY | BORING NO. EB5R | | SOIL (USCS) | HEADSPACE (PPM) | |
|-----------------------|-----------------------------------|---------------|------------------|-------------------------------------|-------------------|----------------|--------------------|----|
| | | | | DATE DRILLED 1/30/01 | WATER LEVEL (ATD) | | | |
| | | | | EQUIPMENT HAND-AUGER DRILLER GEOCON | | | | |
| | | | | SOIL DESCRIPTION | | | | |
| 1 | | EB5R-0 | [Dotted pattern] | Loose, dry, light brown SAND | | | | SP |
| | | EB5R-1 | | | | | | |
| | | EB5R-2 | | | | | | |
| | | EB5R-4 | | BORING TERMINATED AT 1.22 METERS | | | | |

Figure A75, Log of Boring EB5R, page 1 of 1

ENV_NO_WELL YERBA.GPJ 04/10/01

| | |
|----------------------|----------------------------------|
| BORING ELEVATION: NA | ENGINEER/GEOLOGIST: TRAVIS MILLS |
|----------------------|----------------------------------|

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. E8000-06-13

| DEPTH IN METERS | PENETRAT. RESIST. BLOWS/FT. | SAMPLE NO. | LITHOLOGY | BORING NO. EB6L | | SOIL (USCS) | HEADSPACE (PPM) |
|-----------------------|-----------------------------------|---------------|-------------------------------------|---|-------------------|----------------|--------------------|
| | | | | DATE DRILLED 1/30/01 | WATER LEVEL (ATD) | | |
| | | | | EQUIPMENT HAND-AUGER DRILLER GEOCON | | | |
| | | | | SOIL DESCRIPTION | | | |
| 1 | | EB6L-0 | [Lithology symbol: dots and dashes] | Very dry, light brown, fine Gravelly SAND with big chunk of gravel and rock | | SW | |
| | | EB6L-1 | | | | | |
| | | EB6L-2 | | | | | |
| | | EB6L-3 | | | | | |
| | | | | BORING TERMINATED AT 1.07 METERS | | | |

Figure A76, Log of Boring EB6L, page 1 of 1

ENV_NO_WELL YERBA.GPJ 04/10/01

| | |
|----------------------|----------------------------------|
| BORING ELEVATION: NA | ENGINEER/GEOLOGIST: TRAVIS MILLS |
|----------------------|----------------------------------|

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. E8000-06-13

| DEPTH IN METERS | PENETRAT. RESIST. BLOWS/FT. | SAMPLE NO. | LITHOLOGY | BORING NO. EB6R | | SOIL (USCS) | HEADSPACE (PPM) |
|------------------|-----------------------------|--------------------------------------|---|---|------------------------|-------------|-----------------|
| | | | | DATE DRILLED 1/30/01 | WATER LEVEL (ATD) 2.4' | | |
| | | | | EQUIPMENT GEOPROBE DRILLER GREGG DRILLING | | | |
| SOIL DESCRIPTION | | | | | | | |
| | | | 0.3 METERS ASPHALT | | | | |
| 1 | | EB6R-1 EB6R-2 EB6R-3 EB6R-4 | Dense, moist, brown (10YR 4/3) SAND with 1 to 5 inch gravel | | | SW | |
| 2 | | | - gray sand with strong diesel odor | | | | |
| | | EB6R-8 | Saturated GRAVEL | | | GP | |
| 3 | | | BORING TERMINATED AT 3.05 METERS | | | | |

Figure A77, Log of Boring EB6R, page 1 of 1

ENV_NO_WELL YERBA.GPJ 04/10/01

| | |
|----------------------|--------------------------------|
| BORING ELEVATION: NA | ENGINEER/GEOLOGIST: MATT HANKO |
|----------------------|--------------------------------|

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. E8000-06-13

| DEPTH IN METERS | PENETRAT. RESIST. BLOWS/FT. | SAMPLE NO. | LITHOLOGY | BORING NO. EB7L | | SOIL (USCS) | HEADSPACE (PPM) |
|-----------------------|-----------------------------------|---------------|-----------|---|------------------------|----------------|--------------------|
| | | | | DATE DRILLED 1/30/01 | WATER LEVEL (ATD) 1.2' | | |
| | | | | EQUIPMENT GEOPROBE DRILLER GREGG DRILLING | | | |
| SOIL DESCRIPTION | | | | | | | |
| 1 | | EB7L-1 | | 0.075 METERS ASPHALT | | SP | |
| | | EB7L-2 | | Loose, moist, dark gray SAND | | | |
| | | EB7L-3 | | - strong diesel odor | | | |
| | | EB7L-4 | | ▽ | | | |
| 2 | | | | | | | |
| 3 | | | | BORING TERMINATED AT 3.05 METERS | | | |

Figure A79, Log of Boring EB7L, page 1 of 1

ENV_NO_WELL YERBA.GPJ 04/10/01

| | |
|----------------------|--------------------------------|
| BORING ELEVATION: NA | ENGINEER/GEOLOGIST: MATT HANKO |
|----------------------|--------------------------------|

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. E8000-06-13

| DEPTH IN METERS | PENETRAT. RESIST. BLOWS/FT. | SAMPLE NO. | LITHOLOGY | BORING NO. EB7R | | SOIL (USCS) | HEADSPACE (PPM) | |
|-----------------------|-----------------------------------|---------------|-----------|---|-------------------|-------------------|--------------------|--|
| | | | | DATE DRILLED | WATER LEVEL (ATD) | | | |
| | | | | DATE DRILLED | 1/30/01 | WATER LEVEL (ATD) | 1.8' | |
| | | | | EQUIPMENT | GEOPROBE | DRILLER | GREGG DRILLING | |
| | | | | SOIL DESCRIPTION | | | | |
| | | EB7R-0 | | Loose, moist, brown (10YR 4/3) SAND with gravel | | SW | | |
| | | EB7R-1 | | | | | | |
| | | EB7R-2 | | | | | | |
| 1 | | EB7R-3 | | Loose, very moist, gray (10YR 3/0) SAND, strong diesel odor | | SP | | |
| | | EB7R-4 | | | | | | |
| 2 | | | | | | | | |
| 3 | | | | BORING TERMINATED AT 3.05 METERS | | | | |

Figure A78, Log of Boring EB7R, page 1 of 1

ENV_NO_WELL YERBA.GPJ 04/10/01

| | | | |
|-------------------|----|---------------------|------------|
| BORING ELEVATION: | NA | ENGINEER/GEOLOGIST: | MATT HANKO |
|-------------------|----|---------------------|------------|

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. E8000-06-13

| DEPTH IN METERS | PENETRAT. RESIST. BLOWS/FT. | SAMPLE NO. | LITHOLOGY | BORING NO. EB8L | | SOIL (USCS) | HEADSPACE (PPM) |
|----------------------------------|-----------------------------------|---------------|--|---|-------------------|-------------------|--------------------|
| | | | | DATE DRILLED | WATER LEVEL (ATD) | | |
| | | | | DATE DRILLED | 1/30/01 | WATER LEVEL (ATD) | 1.2' |
| | | | | EQUIPMENT | GEOPROBE | DRILLER | GREGG DRILLING |
| SOIL DESCRIPTION | | | | | | | |
| | | | | 0.075 METERS ASPHALT | | | |
| | | | | Loose, moist, gray (10YR 3/1) fine SAND | | | |
| 1 | | EB8L-1 |  | - dark gray with strong diesel odor | | SP | |
| | | EB8L-2 | | | | | |
| | | EB8L-3 | | | | | |
| | | EB8L-4 | | | | | |
| 2 | | | | | | | |
| 3 | | | | | | | |
| BORING TERMINATED AT 3.66 METERS | | | | | | | |

Figure A80, Log of Boring EB8L, page 1 of 1

ENV_NO_WELL YERBA.GPJ 04/10/01

| | |
|----------------------|--------------------------------|
| BORING ELEVATION: NA | ENGINEER/GEOLOGIST: MATT HANKO |
|----------------------|--------------------------------|

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. E8000-06-13

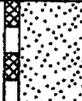
| DEPTH IN METERS | PENETRAT. RESIST. BLOWS/FT. | SAMPLE NO. | LITHOLOGY | BORING NO. EB8R | | SOIL (USCS) | HEADSPACE (PPM) | |
|-----------------------|-----------------------------------|---------------|---|---|-------------------------|----------------|--------------------|--|
| | | | | DATE DRILLED <u>1/31/01</u> | WATER LEVEL (ATD) _____ | | | |
| | | | | EQUIPMENT <u>HAND-AUGER</u> DRILLER <u>GEOCON</u> | | | | |
| | | | | SOIL DESCRIPTION | | | | |
| | | EB8R-0 |  | Dry, light brown Sandy GRAVEL | | SW | | |
| | | EB8R-1 | | | | | | |
| | | EB8R-2 |  | Loose, moist, light brown fine SAND | | SP | | |
| | | EB8R-3 | | BORING TERMINATED AT 0.91 METERS | | | | |

Figure A81, Log of Boring EB8R, page 1 of 1

ENV_NO_WELL YERBA.GPJ 04/10/01

BORING ELEVATION: NA

ENGINEER/GEOLOGIST: TRAVIS MILLS

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. E8000-06-13

| DEPTH IN METERS | PENETRAT. RESIST. BLOWS/FT. | SAMPLE NO. | LITHOLOGY | BORING NO. EB9L | | SOIL (USCS) | HEADSPACE (PPM) |
|-----------------------|-----------------------------------|---------------|-----------|---|------------------------|----------------|--------------------|
| | | | | DATE DRILLED 1/30/01 | WATER LEVEL (ATD) 1.8' | | |
| | | | | EQUIPMENT GEOPROBE DRILLER GREGG DRILLING | | | |
| SOIL DESCRIPTION | | | | | | | |
| 1 | | EB9L-1 | | 0.075 METERS CONCRETE | | SP | |
| | | EB9L-2 | | Loose, moist, light brown (10 YR 4/2), fine SAND | | | |
| | | EB9L-3 | | Loose, moist, light brown (10Yr 4/2) Silty SAND | | | |
| 2 | | EB9L-5 | | - dark gray, slight petroleum odor Saturated Sandy gravel with coarse 1-inch gravels | | SM | |
| | | EB9L-7 | | | | | |
| 3 | | | | BORING TERMINATED AT 3.66 METERS | | GP | |

Figure A83, Log of Boring EB9L, page 1 of 1

ENV_NO_WELL YERBA.GPJ 04/10/01

| | |
|----------------------|--------------------------------|
| BORING ELEVATION: NA | ENGINEER/GEOLOGIST: MATT HANKO |
|----------------------|--------------------------------|

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. E8000-06-13

| DEPTH IN METERS | PENETRAT. RESIST. BLOWS/FT. | SAMPLE NO. | LITHOLOGY | BORING NO. EB9R | | SOIL (USCS) | HEADSPACE (PPM) |
|----------------------------------|-----------------------------------|---------------|-----------|--|------------------------|----------------|--------------------|
| | | | | DATE DRILLED 1/30/01 | WATER LEVEL (ATD) 2.1' | | |
| | | | | EQUIPMENT GEOPROBE DRILLER GREGG DRILLING | | | |
| SOIL DESCRIPTION | | | | | | | |
| | | | | 0.15 METERS ASPHALT | | | |
| | | | | Loose, dark brown (10YR 3/2) SAND with coarse gravel | | SP | |
| 1 | | EB9R-1 | ▣ | | | | |
| | | EB9R-2 | ▣ | | | | |
| | | EB9R-3 | ▣ | | | | |
| | | EB9R-5 | ▣ | | | | |
| 2 | | | ▽ | - slight petroleum odor | | | |
| BORING TERMINATED AT 2.44 METERS | | | | | | | |

Figure A82, Log of Boring EB9R, page 1 of 1

ENV_NO_WELL YERBA.GPJ 04/10/01

| | |
|----------------------|--------------------------------|
| BORING ELEVATION: NA | ENGINEER/GEOLOGIST: MATT HANKO |
|----------------------|--------------------------------|

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. E8000-06-13

| DEPTH IN METERS | PENETRAT. RESIST. BLOWS/FT. | SAMPLE NO. | LITHOLOGY | BORING NO. EB10L | | SOIL (USCS) | HEADSPACE (PPM) |
|-----------------------|-----------------------------------|---------------|----------------------------------|--|-------------------|----------------|--------------------|
| | | | | DATE DRILLED 1/31/01 | WATER LEVEL (ATD) | | |
| | | | | EQUIPMENT | HAND-AUGER | DRILLER | GEOCON |
| SOIL DESCRIPTION | | | | | | | |
| | | EB10L-0 | | Dense, dry, brown SAND with one-inch gravels | | SW | |
| | | EB10L-1 | | | | | |
| | | EB10L-2 | | | | | |
| 1 | | EB10L-3 | | Loose, moist, dark brown, fine SAND | | SP | |
| | | EB10L-5 | | | | | |
| 2 | | | | | | | |
| 3 | | EB10L-10 | BORING TERMINATED AT 3.05 METERS | | | | |

Figure A84, Log of Boring EB10L, page 1 of 1

ENV_NO_WELL YERBA.GPJ 04/10/01

| | |
|----------------------|----------------------------------|
| BORING ELEVATION: NA | ENGINEER/GEOLOGIST: TRAVIS MILLS |
|----------------------|----------------------------------|

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. E8000-06-13

| DEPTH IN METERS | PENETRAT. RESIST. BLOWS/FT. | SAMPLE NO. | LITHOLOGY | BORING NO. EB10R | | SOIL (USCS) | HEADSPACE (PPM) |
|------------------|-----------------------------|------------|-----------|--|-------------------|-------------|-----------------|
| | | | | DATE DRILLED 1/31/01 | WATER LEVEL (ATD) | | |
| | | | | EQUIPMENT GEOPROBE DRILLER GREGG DRILLING | | | |
| SOIL DESCRIPTION | | | | | | | |
| 1 | | EB10R-0 | | Loose, slightly moist, dark brown (10YR 3/2), fine grained Gravelly SAND | | SW | |
| | | EB10R-1 | | Loose, slightly moist, brown (10YR 4/3), fine to medium SAND | | SP | |
| | | EB10R-2 | | | | | |
| | | EB10R-3 | | Coarse GRAVEL with sand | | GP | |
| | | EB10R-5 | | | | | |
| 2 | | | | Saturated GRAVEL with strong diesel odor | | GW | |
| 3 | | | | BORING TERMINATED AT 3.05 METERS | | | |

Figure A85, Log of Boring EB10R, page 1 of 1

ENV_NO_WELL YERBA.GPJ 04/10/01

| | |
|----------------------|--------------------------------|
| BORING ELEVATION: NA | ENGINEER/GEOLOGIST: MATT HANKO |
|----------------------|--------------------------------|

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. E8000-06-13

| DEPTH IN METERS | PENETRAT. RESIST. BLOWS/FT. | SAMPLE NO. | LITHOLOGY | BORING NO. EB11L | | SOIL (USCS) | HEADSPACE (PPM) |
|------------------|-----------------------------|--|---|--|-------------------|-------------|-----------------|
| | | | | DATE DRILLED 1/31/01 | WATER LEVEL (ATD) | | |
| | | | | EQUIPMENT HAND-AUGER DRILLER GREGG DRILLING | | | |
| SOIL DESCRIPTION | | | | | | | |
| | | | | 0.075 METERS ASPHALT | | | |
| 1 | | EB11L-1 EB11L-2 EB11L-3 EB11L-5 | [Lithology: Dotted pattern representing sand] | Loose, slightly moist, light brown (10YR 4/2), fine to medium SAND | | SP | |
| 2 | | EB11L-7 | | | | | |
| | | | | BORING TERMINATED AT 2.13 METERS | | | |

Figure A86, Log of Boring EB11L, page 1 of 1

ENV_NO_WELL YERBA.GPJ 04/10/01

| | |
|----------------------|--------------------------------|
| BORING ELEVATION: NA | ENGINEER/GEOLOGIST: MATT HANKO |
|----------------------|--------------------------------|

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. E8000-06-13

| DEPTH IN METERS | PENETRAT. RESIST. BLOWS/FT. | SAMPLE NO. | LITHOLOGY | BORING NO. EB12L | | SOIL (USCS) | HEADSPACE (PPM) |
|-----------------------|-----------------------------------|---------------|-----------|--|-------------------|----------------|--------------------|
| | | | | DATE DRILLED 1/31/01 | WATER LEVEL (ATD) | | |
| | | | | EQUIPMENT HAND-AUGER DRILLER GREGG DRILLING | | | |
| | | | | SOIL DESCRIPTION | | | |
| 1 | | EB12L-0 | 4-4-4 | 0.15 METERS CONCRETE | | SP | |
| | | EB12L-1 | | Loose, slightly moist, light brown (10YR 4/2), fine to medium SAND | | | |
| | | EB12L-2 | | | | | |
| | | EB12L-3 | | | | | |
| | | EB12L-5 | | BORING TERMINATED AT 1.52 METERS | | | |

Figure A87, Log of Boring EB12L, page 1 of 1

ENV_NO_WELL YERBA.GPJ 04/10/01

| | |
|----------------------|--------------------------------|
| BORING ELEVATION: NA | ENGINEER/GEOLOGIST: MATT HANKO |
|----------------------|--------------------------------|

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. E8000-06-13

| DEPTH IN METERS | PENETRAT. RESIST. BLOWS/FT. | SAMPLE NO. | LITHOLOGY | BORING NO. EB13L | | SOIL (USCS) | HEADSPACE (PPM) |
|-----------------------|-----------------------------------|---------------|---|--|------------------------|----------------|--------------------|
| | | | | DATE DRILLED 1/31/01 | WATER LEVEL (ATD) 3.1' | | |
| | | | | EQUIPMENT GEOPROBE DRILLER GREGG DRILLING | | | |
| | | | | SOIL DESCRIPTION | | | |
| 1 | | EB13L-0 |  | Dry, fine to coarse Sandy GRAVEL | | GW | |
| | | EB13L-1 | | | | | |
| | | EB13L-2 | | | | | |
| 2 | | EB13L-3 |  | Loose, slightly moist, dark brown (10YR 3/2), fine SAND | | SP | |
| | | EB13L-5 | | | | | |
| | | EB13L-9 | | Moist, dark gray (10YR 3/1), fine to medium Gravelly SAND with fine gravels, strong petroleum odor | | | |
| 3 | | |  | - saturated at 3.05 meters | | SW | |
| | | EB13L-12 | | | | | |
| 4 | | |  | Loose, saturated, light brown (10YR 4/2), fine to medium SAND | | SP | |
| | | | | BORING TERMINATED AT 4.27 METERS | | | |

Figure A88, Log of Boring EB13L, page 1 of 1

ENV_NO_WELL YERBA.GPJ 04/10/01

| | |
|----------------------|--------------------------------|
| BORING ELEVATION: NA | ENGINEER/GEOLOGIST: MATT HANKO |
|----------------------|--------------------------------|

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. E8000-06-13

| DEPTH IN METERS | PENETRAT. RESIST. BLOWS/FT. | SAMPLE NO. | LITHOLOGY | BORING NO. EB13R | | SOIL (USCS) | HEADSPACE (PPM) |
|-----------------------|-----------------------------------|---------------|-----------|--|-------------------|----------------|--------------------|
| | | | | DATE DRILLED 2/1/01 | WATER LEVEL (ATD) | | |
| | | | | EQUIPMENT HAND-AUGER DRILLER GEOCON | | | |
| SOIL DESCRIPTION | | | | | | | |
| 1 | | EB13R-0 | [Pattern] | FILL | | SW | |
| | | EB13R-1 | [Pattern] | Slightly moist, light brown, SAND with rock and concrete | | | |
| | | EB13R-2 | [Pattern] | Dense, dry, fine SAND with one-inch gravels | | | |
| | | EB13R-3 | [Pattern] | | | | |
| | | EB13R-5 | [Pattern] | BORING TERMINATED AT 1.52 METERS | | | |

Figure A89, Log of Boring EB13R, page 1 of 1

ENV_NO_WELL YERBA.GPJ 04/10/01

| | |
|----------------------|----------------------------------|
| BORING ELEVATION: NA | ENGINEER/GEOLOGIST: TRAVIS MILLS |
|----------------------|----------------------------------|

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. E8000-06-13

| DEPTH IN METERS | PENETRAT. RESIST. BLOWS/FT. | SAMPLE NO. | LITHOLOGY | BORING NO. EB14L | | SOIL (USCS) | HEADSPACE (PPM) |
|-----------------------|-----------------------------------|---------------|--------------------------------|---|-------------------|----------------|--------------------|
| | | | | DATE DRILLED 1/31/01 | WATER LEVEL (ATD) | | |
| | | | | EQUIPMENT GEOPROBE DRILLER GREGG DRILLING | | | |
| | | | | SOIL DESCRIPTION | | | |
| 1 | | EB14L-0 | [Lithology symbol: loose sand] | Loose, dry, light brown (10YR 4/2), fine to medium SAND | | SP | |
| | | EB14L-1 | | | | | |
| | | EB14L-2 | | | | | |
| | | EB14L-3 | | | | | |
| | | EB14L-5 | | | | | |
| | | | | BORING TERMINATED AT 1.52 METERS | | | |

Figure A90, Log of Boring EB14L, page 1 of 1

ENV_NO_WELL YERBA.GPJ 04/10/01

| | |
|----------------------|--------------------------------|
| BORING ELEVATION: NA | ENGINEER/GEOLOGIST: MATT HANKO |
|----------------------|--------------------------------|

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. E8000-06-13

| DEPTH IN METERS | PENETRAT. RESIST. BLOWS/FT. | SAMPLE NO. | LITHOLOGY | BORING NO. EB14R | | SOIL (USCS) | HEADSPACE (PPM) |
|-----------------------|-----------------------------------|--|-----------|---|------------------------|----------------|--------------------|
| | | | | DATE DRILLED 1/31/01 | WATER LEVEL (ATD) 2.7' | | |
| | | | | EQUIPMENT GEOPROBE DRILLER GREGG DRILLING | | | |
| | | | | SOIL DESCRIPTION | | | |
| 1 | | EB14R-0 EB14R-1 EB14R-2 EB14R-3 | | Dense, slightly moist, brown (10YR 4/3), fine Gravelly SAND | | SW | |
| 2 | | EB14R-5 | | | | | |
| 3 | | | | | | | |
| 4 | | EB14R-12 | | | | | |
| | | | | | | | |
| | | | | BORING TERMINATED AT 4.27 METERS | | | |

Figure A91, Log of Boring EB14R, page 1 of 1

ENV_NO_WELL YERBA.GPJ 04/10/01

| | |
|----------------------|--------------------------------|
| BORING ELEVATION: NA | ENGINEER/GEOLOGIST: MATT HANKO |
|----------------------|--------------------------------|

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. E8000-06-13

| DEPTH IN METERS | PENETRAT. RESIST. BLOWS/FT. | SAMPLE NO. | LITHOLOGY | BORING NO. EB15L | | SOIL (USCS) | HEADSPACE (PPM) |
|------------------|-----------------------------|------------|---|-------------------------------------|-------------------|-------------|-----------------|
| | | | | DATE DRILLED 2/1/01 | WATER LEVEL (ATD) | | |
| | | | | EQUIPMENT HAND-AUGER DRILLER GEOCON | | | |
| SOIL DESCRIPTION | | | | | | | |
| | | EB15L-0 |  | Loose, dry, brown SAND | | SP | |
| | | EB15L-1 |  | Very dense, dry, brown SAND | | SP | |
| | | EB15L-2 |  | | | | |
| | | EB15L-3 |  | BORING TERMINATED AT 0.91 METERS | | | |

Figure A92, Log of Boring EB15L, page 1 of 1

ENV_NO_WELL YERBA.GPJ 04/10/01

| | |
|----------------------|----------------------------------|
| BORING ELEVATION: NA | ENGINEER/GEOLOGIST: TRAVIS MILLS |
|----------------------|----------------------------------|

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. E8000-06-13

| DEPTH IN METERS | PENETRAT. RESIST. BLOWS/FT. | SAMPLE NO. | LITHOLOGY | BORING NO. EB15R | | SOIL (USCS) | HEADSPACE (PPM) |
|-----------------|-----------------------------|------------|--------------------------------|-------------------------------------|-------------------|-------------|-----------------|
| | | | | DATE DRILLED 2/1/01 | WATER LEVEL (ATD) | | |
| | | | | EQUIPMENT HAND-AUGER DRILLER GEOCON | | | |
| | | | | SOIL DESCRIPTION | | | |
| 1 | | EB15R-0 | [Lithology symbol: loose sand] | Loose, dry, brown SAND | | SP | |
| | | EB15R-1 | | Very dense, dry, brown SAND | | SP | |
| | | EB15R-2 | | | | | |
| | | EB15R-3 | | | | | |
| | | EB15R-5 | | BORING TERMINATED AT 1.52 METERS | | | |

Figure A93, Log of Boring EB15R, page 1 of 1

ENV_NO_WELL YERBA.GPJ 04/10/01

| | |
|----------------------|----------------------------------|
| BORING ELEVATION: NA | ENGINEER/GEOLOGIST: TRAVIS MILLS |
|----------------------|----------------------------------|

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. E8000-06-13

| DEPTH IN METERS | PENETRAT. RESIST. BLOWS/FT. | SAMPLE NO. | LITHOLOGY | BORING NO. EB16 | | SOIL (USCS) | HEADSPACE (PPM) |
|-----------------------|-----------------------------------|---------------|-----------|--|-------------------|------------------------|--------------------|
| | | | | DATE DRILLED 1/31/01 | WATER LEVEL (ATD) | | |
| | | | | EQUIPMENT | | | |
| | | | | GEOPROBE | | DRILLER GREGG DRILLING | |
| SOIL DESCRIPTION | | | | | | | |
| 1 | | EB16-0 | | Loose, dry, dark brown (10YR 3/2), fine SAND | | SP | |
| | | EB16-1 | | | | | |
| | | EB16-2 | | Dense, dry, light brown (10YR 3/2), SAND with gravel | | SW | |
| | | EB16-3 | | | | | |
| 2 | | | | REFUSAL - BORING TERMINATED AT 2.74 METERS | | | |

Figure A94, Log of Boring EB16, page 1 of 1

ENV_NO_WELL YERBA.GPJ 04/1001

| | |
|----------------------|--------------------------------|
| BORING ELEVATION: NA | ENGINEER/GEOLOGIST: MATT HANKO |
|----------------------|--------------------------------|

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. E8000-06-13

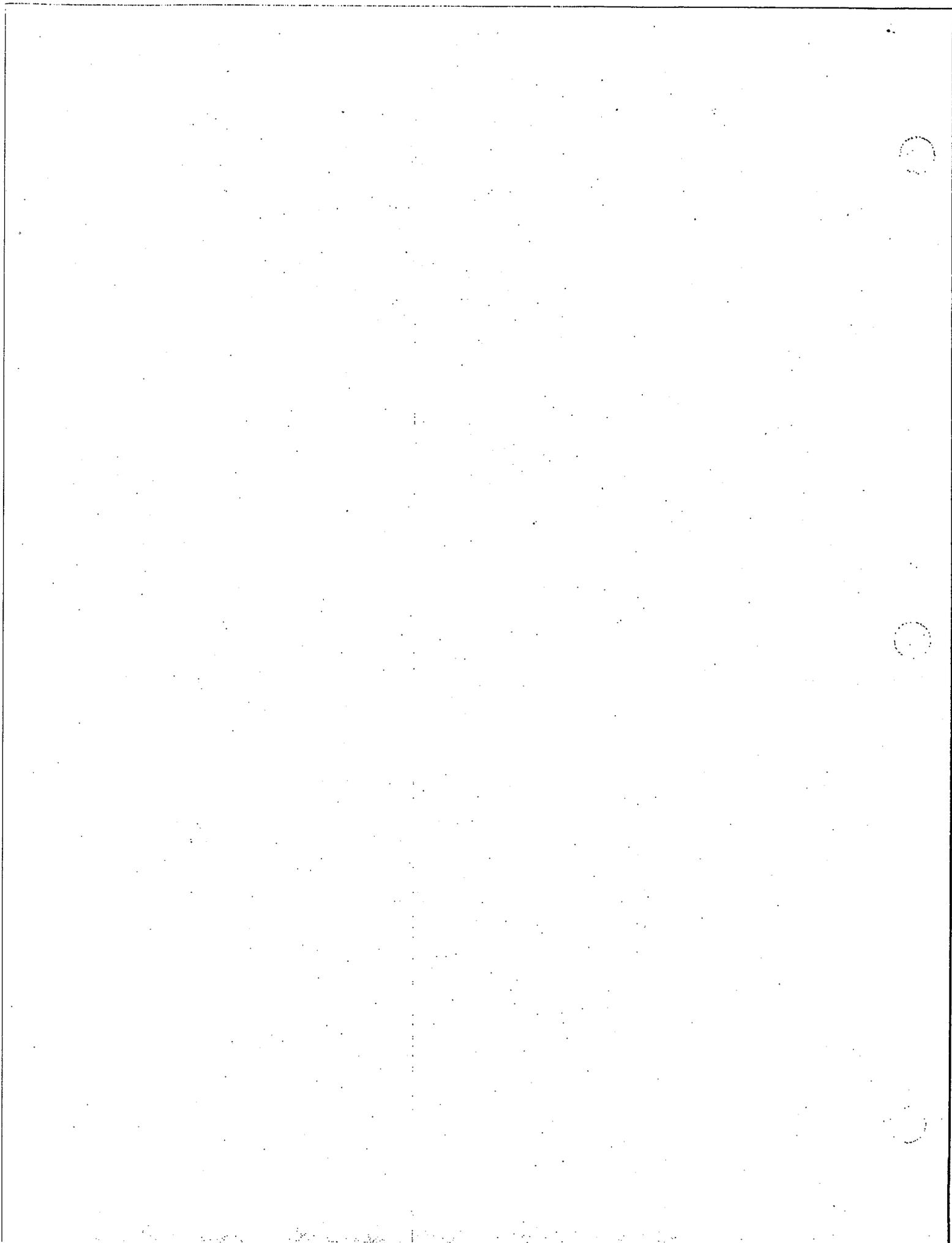
| DEPTH IN METERS | PENETRAT. RESIST. BLOWS/FT. | SAMPLE NO. | LITHOLOGY | BORING NO. EB17 | | SOIL (USCS) | HEADSPACE (PPM) |
|-----------------|-----------------------------|------------|--------------------|---|-------------------|-------------|-----------------|
| | | | | DATE DRILLED 1/31/01 | WATER LEVEL (ATD) | | |
| | | | | EQUIPMENT GEOPROBE DRILLER GREGG DRILLING | | | |
| | | | | SOIL DESCRIPTION | | | |
| 1 | | EB17-0 | [Stippled pattern] | Dense, dry, light brown (10YR 4/2) fine Gravelly SAND | | SW | |
| | | EB17-1 | | | | | |
| | | EB17-2 | | | | | |
| | | EB17-3 | | | | | |
| | | | | SANDSTONE | | | |
| | | | | REFUSAL - BORING TERMINATED AT 1.68 METERS | | | |

Figure A95, Log of Boring EB17, page 1 of 1

ENV_NO_WELL YERBA.GPJ 04/10/01

| | |
|----------------------|--------------------------------|
| BORING ELEVATION: NA | ENGINEER/GEOLOGIST: MATT HANKO |
|----------------------|--------------------------------|

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.



PROJECT NO. E8000-06-13

| DEPTH IN METERS | PENETRAT. RESIST. BLOWS/FT. | SAMPLE NO. | LITHOLOGY | BORING NO. W2LC | | SOIL (USCS) | HEADSPACE (PPM) | |
|-----------------------|-----------------------------------|----------------|----------------------------------|----------------------|-------------------|----------------|--------------------|--|
| | | | | DATE DRILLED 1/23/01 | WATER LEVEL (ATD) | | | |
| | | | | EQUIPMENT | GEOPROBE | DRILLER | GREGG | |
| SOIL DESCRIPTION | | | | | | | | |
| 1 | | W2LC-0 1145 | 0.15 METERS TOP SOIL | | | SM | | |
| | | W2LC-1 1147 | Loose, damp, black Silty SAND | | | | | |
| | | W2LC-2 1148 | WEATHERED SANDSTONE | | | | | |
| 2 | | | BORING TERMINATED AT 0.76 METERS | | | | | |

Figure A20, Log of Boring W2LC, page 1 of 1

ENV_NO_WELL YERBA.GPJ 04/10/01

| | |
|----------------------|-----------------------------------|
| BORING ELEVATION: NA | ENGINEER/GEOLOGIST: WEST BOURGALT |
|----------------------|-----------------------------------|

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. E8000-06-13

| DEPTH IN METERS | PENETRAT. RESIST. BLOWS/FT. | SAMPLE NO. | LITHOLOGY | BORING NO. W2LD | | SOIL (USCS) | HEADSPACE (PPM) |
|-----------------------|-----------------------------------|------------------|---|--|-------------------|----------------|--------------------|
| | | | | DATE DRILLED 1/23/01 | WATER LEVEL (ATD) | | |
| | | | | EQUIPMENT GEOPROBE DRILLER GREGG DRILLING | | | |
| | | | | SOIL DESCRIPTION | | | |
| | | W2LD-0 W2LD-1 |  | 0.15 METERS TOP SOIL Loose, damp, black Silty SAND WEATHERED SANDSTONE | | SM | |
| | | | | BORING TERMINATED AT 0.46 METERS | | | |

Figure A21, Log of Boring W2LD, page 1 of 1

ENV_NO_WELL YERBA.GPJ 04/10/01

| | |
|----------------------|------------------------------------|
| BORING ELEVATION: NA | ENGINEER/GEOLOGIST: WEST BOURGAULT |
|----------------------|------------------------------------|

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. E8000-06-13

| DEPTH IN METERS | PENETRAT. RESIST. BLOWS/FT. | SAMPLE NO. | LITHOLOGY | BORING NO. W2RA | | SOIL (USCS) | HEADSPACE (PPM) |
|-----------------------|-----------------------------------|--------------------------|---|---|-------------------|----------------|--------------------|
| | | | | DATE DRILLED 1/23/01 | WATER LEVEL (ATD) | | |
| | | | | EQUIPMENT GEOPROBE DRILLER GREGG DRILLING | | | |
| | | | | SOIL DESCRIPTION | | | |
| | | W2RA-0 1130 W2RA-1 |  | 0.15 METERS TOP SOIL GRAVEL WEATHERED SANDSTONE BORING TERMINATED AT 0.46 METERS | | | |

Figure A22, Log of Boring W2RA, page 1 of 1

ENV_NO_WELL YERBA.GPJ 04/10/01

| | |
|----------------------|------------------------------------|
| BORING ELEVATION: NA | ENGINEER/GEOLOGIST: WEST BOURGAULT |
|----------------------|------------------------------------|

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. E8000-06-13

| DEPTH IN METERS | PENETRAT. RESIST. BLOWS/FT. | SAMPLE NO. | LITHOLOGY | BORING NO. W2RB | | SOIL (USCS) | HEADSPACE (PPM) |
|-----------------------|-----------------------------------|---------------|---|---|-------------------|------------------------|--------------------|
| | | | | DATE DRILLED 1/23/01 | WATER LEVEL (ATD) | | |
| | | | | EQUIPMENT | GEOPROBE | DRILLER GREGG DRILLING | |
| SOIL DESCRIPTION | | | | | | | |
| | | W2RB-0 |  | FILL Sandy GRAVEL BORING TERMINATED AT 0.30 METERS | | GS | |

Figure A23, Log of Boring W2RB, page 1 of 1

ENV_NO_WELL YERBA.GPJ 04/10/01

| | |
|----------------------|------------------------------------|
| BORING ELEVATION: NA | ENGINEER/GEOLOGIST: WEST BOURGAULT |
|----------------------|------------------------------------|

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. E8000-06-13

| DEPTH IN METERS | PENETRAT. RESIST. BLOWS/FT. | SAMPLE NO. | LITHOLOGY | BORING NO. W2RC | | SOIL (USCS) | HEADSPACE (PPM) | |
|-----------------------|-----------------------------------|---------------|---|--|-------------------|----------------|--------------------|--|
| | | | | DATE DRILLED 1/23/01 | WATER LEVEL (ATD) | | | |
| | | | | EQUIPMENT GEOPROBE DRILLER GREGG DRILLING | | | | |
| SOIL DESCRIPTION | | | | | | | | |
| | | |  | 0.06 METERS ASPHALT WEATHERED SANDSTONE | | | | |
| | | | | NO SAMPLE RECOVERY - BORING TERMINATED AT 0.61 METERS | | | | |

Figure A24, Log of Boring W2RC, page 1 of 1

ENV_NO_WELL YERBAGPJ 04/10/01

| | |
|----------------------|------------------------------------|
| BORING ELEVATION: NA | ENGINEER/GEOLOGIST: WEST BOURGAULT |
|----------------------|------------------------------------|

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. E8000-06-13

| DEPTH IN METERS | PENETRAT. RESIST. BLOWS/FT. | SAMPLE NO. | LITHOLOGY | BORING NO. W3LA | | SOIL (USCS) | HEADSPACE (PPM) |
|----------------------------------|-----------------------------------|----------------|---|---|-------------------|----------------|--------------------|
| | | | | DATE DRILLED 1/23/01 | WATER LEVEL (ATD) | | |
| | | | | EQUIPMENT GEOPROBE DRILLER GREGG DRILLING | | | |
| SOIL DESCRIPTION | | | | | | | |
| | | W3LA-0 1013 |  | TOP SOIL | | SM | |
| | | W3LA-1 1014 | | Loose, damp, black Silty SAND (rods gray) | | | |
| | | W3LA-2 1015 | | WEATHERED SANDSTONE | | | |
| BORING TERMINATED AT 0.61 METERS | | | | | | | |

Figure A25, Log of Boring W3LA, page 1 of 1

ENV_NO_WELL YERBA.GPJ 04/10/01

| | |
|----------------------|------------------------------------|
| BORING ELEVATION: NA | ENGINEER/GEOLOGIST: WEST BOURGAULT |
|----------------------|------------------------------------|

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. E8000-06-13

| DEPTH IN METERS | PENETRAT. RESIST. BLOWS/FT. | SAMPLE NO. | LITHOLOGY | BORING NO. W3LB | | SOIL (USCS) | HEADSPACE (PPM) |
|-----------------------|-----------------------------------|----------------|--|--|-------------------|----------------|--------------------|
| | | | | DATE DRILLED 1/23/01 | WATER LEVEL (ATD) | | |
| | | | | EQUIPMENT: GEOPROBE DRILLER GREGG DRILLING | | | |
| SOIL DESCRIPTION | | | | | | | |
| | | W3LB-0 1010 | <p>TOP SOIL Loose, damp, black Silty SAND WEATHERED SANDSTONE BORING TERMINATED AT 0.15 METERS</p> | | | SM | |

Figure A26, Log of Boring W3LB, page 1 of 1

ENV_NO_WELL YERBA.GPJ 04/10/01

| | |
|----------------------|------------------------------------|
| BORING ELEVATION: NA | ENGINEER/GEOLOGIST: WEST BOURGAULT |
|----------------------|------------------------------------|

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. E8000-06-13

| DEPTH IN METERS | PENETRAT. RESIST. BLOWS/FT. | SAMPLE NO. | LITHOLOGY | BORING NO. W3LC | | SOIL (USCS) | HEADSPACE (PPM) |
|-----------------------|-----------------------------------|--------------------------|-----------|--|-------------------|----------------|--------------------|
| | | | | DATE DRILLED 1/23/01 | WATER LEVEL (ATD) | | |
| | | | | EQUIPMENT GEOPROBE DRILLER GREGG DRILLING | | | |
| SOIL DESCRIPTION | | | | | | | |
| | | W3LC-0 1030 W3LC-1 | | TOP SOIL Loose, damp, black Silty SAND WEATHERED SANDSTONE BORING TERMINATED AT 0.30 METERS | | SM | |

Figure A27, Log of Boring W3LC, page 1 of 1

ENV_NO_WELL YERBA.GPJ 04/10/01

| | |
|----------------------|------------------------------------|
| BORING ELEVATION: NA | ENGINEER/GEOLOGIST: WEST BOURGAULT |
|----------------------|------------------------------------|

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. E8000-06-13

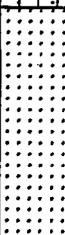
| DEPTH IN METERS | PENETRAT. RESIST. BLOWS/FT. | SAMPLE NO. | LITHOLOGY | BORING NO. W3LD | | SOIL (USCS) | HEADSPACE (PPM) |
|----------------------------------|-----------------------------------|----------------|---|---|-------------------|----------------|--------------------|
| | | | | DATE DRILLED 1/23/01 | WATER LEVEL (ATD) | | |
| | | | | EQUIPMENT _____ GEOPROBE _____ DRILLER GREGG DRILLING | | | |
| SOIL DESCRIPTION | | | | | | | |
| 1 | | W3LD-0 1000 |  | TOP SOIL Loose, damp, black, Silty SAND roots and grass | | SM | |
| | | W3LD-1 1001 | | WEATHERED SANDSTONE | | | |
| BORING TERMINATED AT 1.37 METERS | | | | | | | |

Figure A28, Log of Boring W3LD, page 1 of 1

ENV_NO_WELL YERBA.GPJ 04/10/01

| | |
|----------------------|------------------------------------|
| BORING ELEVATION: NA | ENGINEER/GEOLOGIST: WEST BOURGAULT |
|----------------------|------------------------------------|

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. E8000-06-13

| DEPTH IN METERS | PENETRAT. RESIST. BLOWS/FT. | SAMPLE NO. | LITHOLOGY | BORING NO. W3RA | | SOIL (USCS) | HEADSPACE (PPM) | |
|-----------------------|-----------------------------------|----------------|-----------|---|-------------------|----------------|--------------------|--|
| | | | | DATE DRILLED 1/23/01 | WATER LEVEL (ATD) | | | |
| | | | | EQUIPMENT <u>GEOPROBE</u> DRILLER <u>GREGG DRILLING</u> | | | | |
| SOIL DESCRIPTION | | | | | | | | |
| | | W3RA-0 1225 | [Symbol] | ASPHALT | | SM | | |
| | | W3RA-1 1226 | [Symbol] | Loose, damp, black Silty SAND | | | | |
| | | W3RA-2 1226 | [Symbol] | FILL | | | | |
| | | | [Symbol] | WEATHERED SANDSTONE | | | | |
| | | | | BORING TERMINATED AT 0.61 METERS | | | | |

Figure A29, Log of Boring W3RA, page 1 of 1

ENV_NO_WELL YERBA.GPJ 04/10/01

BORING ELEVATION:

NA

ENGINEER/GEOLOGIST:

WEST BOURGAULT

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. E8000-06-13

| DEPTH IN METERS | PENETRAT. RESIST. BLOWS/FT. | SAMPLE NO. | LITHOLOGY | BORING NO. W3RB | | SOIL (USCS) | HEADSPACE (PFM) |
|-----------------------|-----------------------------------|------------------|-----------|---|-------------------|----------------|--------------------|
| | | | | DATE DRILLED: 1/23/01 | WATER LEVEL (ATD) | | |
| | | | | EQUIPMENT: GEOPROBE DRILLER: GREGG DRILLING | | | |
| SOIL DESCRIPTION | | | | | | | |
| | | W3RB-0 W3RB-1 | | | | SM | |

Figure A30, Log of Boring W3RB, page 1 of 1

ENV_NO_WELL YERBA.GPJ 04/10/01

| | |
|----------------------|------------------------------------|
| BORING ELEVATION: NA | ENGINEER/GEOLOGIST: WEST BOURGAULT |
|----------------------|------------------------------------|

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. E8000-06-13

| DEPTH IN METERS | PENETRAT. RESIST. BLOWS/FT. | SAMPLE NO. | LITHOLOGY | BORING NO. W3RC | | SOIL (USCS) | HEADSPACE (PPM) |
|----------------------------------|-----------------------------------|---------------|---|---|-------------------------|----------------|--------------------|
| | | | | DATE DRILLED <u>1/29/01</u> | WATER LEVEL (ATD) _____ | | |
| | | | | EQUIPMENT <u>HAND-AUGER</u> DRILLER <u>GEOCON</u> | | | |
| SOIL DESCRIPTION | | | | | | | |
| | | W3RC-0 |  | Moist, dark brown Silty SAND with roots and leaf debris | | SM | |
| | | W3RC-1 |  | | | | |
| | | W3RC-2 |  | Dry, yellowish brown SAND and SANDSTONE fragments | | | |
| BORING TERMINATED AT 0.76 METERS | | | | | | | |

Figure A32, Log of Boring W3RC, page 1 of 1

ENV_NO_WELL YERBA.GPJ 04/10/01

| | |
|-----------------------------|---|
| BORING ELEVATION: NA | ENGINEER/GEOLOGIST: TRAVIS MILLS |
|-----------------------------|---|

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. E8000-06-13

| DEPTH IN METERS | PENETRAT. RESIST. BLOWS/FT. | SAMPLE NO. | LITHOLOGY | BORING NO. W3RD | | SOIL (USCS) | HEADSPACE (PPM) |
|-----------------------|-----------------------------------|------------------|-----------|--|-------------------|----------------|--------------------|
| | | | | DATE DRILLED 1/29/01 | WATER LEVEL (ATD) | | |
| | | | | EQUIPMENT <u>HAND-AUGER</u> DRILLER <u>GEOCON</u> | | | |
| SOIL DESCRIPTION | | | | | | | |
| | | W3RD-0 W3RD-1 | ••••• | Loose, slightly moist, brown SAND | | SP | |
| | | W3RD-2 | — | SANDSTONE BORING TERMINATED AT 0.61 METERS | | | |

Figure A31, Log of Boring W3RD, page 1 of 1

ENV_NO_WELL YERBA.GPJ 04/10/01

| | |
|----------------------|----------------------------------|
| BORING ELEVATION: NA | ENGINEER/GEOLOGIST: TRAVIS MILLS |
|----------------------|----------------------------------|

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. E8000-06-13

| DEPTH IN METERS | PENETRAT. RESIST. BLOWS/FT. | SAMPLE NO. | LITHOLOGY | BORING NO. W4LA | | SOIL (USCS) | HEADSPACE (PPM) |
|------------------|-----------------------------|------------|-----------|--|-------------------|-------------|-----------------|
| | | | | DATE DRILLED 1/29/01 | WATER LEVEL (ATD) | | |
| | | | | EQUIPMENT | HAND-AUGER | DRILLER | GEOCON |
| SOIL DESCRIPTION | | | | | | | |
| 1 | | W4LA-0 | [Pattern] | Loose, moist, dark brown, Silty SAND | | SM | |
| | | W4LA-1 | [Pattern] | Dense, damp, yellowish brown, Clayey SAND with sandstone fragments | | SC | |
| | | W4LA-2 | [Pattern] | Dense, damp, yellowish brown, Silty SAND with some clay and coarse gravel - clay content and moisture content decrease with depth | | SM | |
| | | W4LA-3 | [Pattern] | | | | |
| | | W4LA-5 | [Pattern] | Dense, dry, yellowish brown, Silty SAND and gravel | | SM | |
| | | | | REFUSAL - BORING TERMINATED AT 2.68 METERS | | | |

Figure A38, Log of Boring W4LA, page 1 of 1

ENV_NO_WELL YERBA.GPJ 04/1001

| | |
|----------------------|----------------------------------|
| BORING ELEVATION: NA | ENGINEER/GEOLOGIST: TRAVIS MILLS |
|----------------------|----------------------------------|

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. E8000-06-13

| DEPTH IN METERS | PENETRAT. RESIST. BLOWS/FT. | SAMPLE NO. | LITHOLOGY | BORING NO. W4LB | | SOIL (USCS) | HEADSPACE (PPM) |
|-----------------------|-----------------------------------|---------------|-----------|---|-------------------|----------------|--------------------|
| | | | | DATE DRILLED 1/29/01 | WATER LEVEL (ATD) | | |
| | | | | EQUIPMENT HAND-AUGER DRILLER GEOCON | | | |
| | | | | SOIL DESCRIPTION | | | |
| 1 | | W4LB-0 | | Dense, damp, dark brown, Silty SAND with some roots | | SM | |
| | | W4LB-1 | | Dense, dry, light yellowish brown, fine SAND with some gravel | | SM | |
| | | W4LB-2 | | | | | |
| | | W4LB-3 | | - no sample | | | |
| | | | | REFUSAL - BORING TERMINATED AT 1.37 METERS | | | |

Figure A39, Log of Boring W4LB, page 1 of 1

ENV_NO_WELL YERBA.GPJ 04/10/01

| | |
|----------------------|----------------------------------|
| BORING ELEVATION: NA | ENGINEER/GEOLOGIST: TRAVIS MILLS |
|----------------------|----------------------------------|

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. E8000-06-13

| DEPTH IN METERS | PENETRAT. RESIST. BLOWS/FT. | SAMPLE NO. | LITHOLOGY | BORING NO. W4LC | | SOIL (USCS) | HEADSPACE (PPM) |
|------------------|-----------------------------|------------------|--|--|-------------------|-------------|-----------------|
| | | | | DATE DRILLED 1/23/01 | WATER LEVEL (ATD) | | |
| | | | | EQUIPMENT GEOPROBE DRILLER GREGG DRILLING | | | |
| SOIL DESCRIPTION | | | | | | | |
| 1 | | W4LC-0 W4LC-1 |  | TOP SOIL Loose, damp, black Silty SAND Moderately dense, damp, red brown, fine SAND | | SM SP | |
| | | W4LC-2 W4LC-3 | | | | | |
| 2 | | W4LC-5 |  | Dense, damp, red-brown, fine Clayey SAND | | SC | |
| 3 | | W4LC-12 | | REFUSAL - BORING TERMINATED AT 3.66 METERS | | | |

Figure A34, Log of Boring W4LC, page 1 of 1

ENV_NO_WELL YERBA.GPJ 04/10/01

BORING ELEVATION: NA

ENGINEER/GEOLOGIST: WEST BOURGAULT

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. E8000-06-13

| DEPTH IN METERS | PENETRAT. RESIST. BLOWS/FT. | SAMPLE NO. | LITHOLOGY | BORING NO. W4LD | | SOIL (USCS) | HEADSPACE (PPM) |
|----------------------------------|-----------------------------------|------------------|--|---|-------------------|----------------|--------------------|
| | | | | DATE DRILLED 1/23/01 | WATER LEVEL (ATD) | | |
| | | | | EQUIPMENT GEOPROBE DRILLER GREGG DRILLING | | | |
| SOIL DESCRIPTION | | | | | | | |
| 1 | | W4LD-0 W4LD-1 | TOP SOIL | Loose, damp, black Silty SAND | | SM SP | |
| | | W4LD-2 W4LD-3 | | Moderately dense, damp, red-brown fine SAND | | | |
| 2 | | W4LD-5 | Dense, damp, red-brown, fine Clayey SAND | | | SC | |
| | | W4LD-7 | | | | | |
| BORING TERMINATED AT 2.44 METERS | | | | | | | |

Figure A33, Log of Boring W4LD, page 1 of 1

ENV_NO_WELL YERBA.GPJ 04/10/01

| | |
|----------------------|------------------------------------|
| BORING ELEVATION: NA | ENGINEER/GEOLOGIST: WEST BOURGAULT |
|----------------------|------------------------------------|

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. E8000-06-13

| DEPTH IN METERS | PENETRAT. RESIST. BLOWS/FT. | SAMPLE NO. | LITHOLOGY | BORING NO. W4RA | | SOIL (USCS) | HEADSPACE (PPM) |
|-----------------|-----------------------------|------------|-----------|---|-------------------|-------------|-----------------|
| | | | | DATE DRILLED 1/31/01 | WATER LEVEL (ATD) | | |
| | | | | EQUIPMENT GEOPROBE DRILLER GREGG DRILLING | | | |
| | | | | SOIL DESCRIPTION | | | |
| | | W4RA-0 | | 7.5 CM ASPHALT | | SP | |
| | | W4RA-1 | | Loose, slightly moist, brown (10YR 4/3), fine SAND | | | |
| | | W4RA-2 | | | | | |
| 1 | | W4RA-3 | | | | | |
| | | W4RA-5 | | Stiff, slightly moist, brown (10YR 4/3), Sandy SILT | | SM | |
| 2 | | | | | | | |
| 3 | | | | | | | |
| 4 | | | | | | | |
| 5 | | | | | | | |
| 6 | | | | Dense, slightly moist, dark gray (10YR 3/1) SAND, strong petroleum odor | | SP | |
| | | W4RA-22 | | | | | |

Figure A34, Log of Boring W4RA, page 1 of 2

ENV_NO_WELL YERBA.GPJ 04/1001

| | |
|----------------------|--------------------------------|
| BORING ELEVATION: NA | ENGINEER/GEOLOGIST: MATT HANKO |
|----------------------|--------------------------------|

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. E8000-06-13

| DEPTH IN METERS | PENETRAT. RESIST. BLOWS/FT. | SAMPLE NO. | LITHOLOGY | BORING NO. W4RA | | SOIL (USCS) | HEADSPACE (PPM) |
|--|-----------------------------------|---------------|-----------|---|-------------------|----------------|--------------------|
| | | | | DATE DRILLED 1/31/01 | WATER LEVEL (ATD) | | |
| | | | | EQUIPMENT GEOPROBE DRILLER GREGG DRILLING | | | |
| SOIL DESCRIPTION | | | | | | | |
| REFUSAL - BORING TERMINATED AT 7.01 METERS | | | | | | | |

Figure A35, Log of Boring W4RA, page 2 of 2

ENV_NO_WELL YERBA.GPJ 04/10/01

| | |
|----------------------|--------------------------------|
| BORING ELEVATION: NA | ENGINEER/GEOLOGIST: MATT HANKO |
|----------------------|--------------------------------|

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. E8000-06-13

| DEPTH IN METERS | PENETRAT. RESIST. BLOWS/FT. | SAMPLE NO. | LITHOLOGY | BORING NO. W4RB | | SOIL (USCS) | HEADSPACE (PPM) |
|------------------|-----------------------------|------------|---------------------------|--|-------------------|-------------|-----------------|
| | | | | DATE DRILLED 1/29/01 | WATER LEVEL (ATD) | | |
| | | | | EQUIPMENT HAND-AUGER DRILLER GEOCON | | | |
| SOIL DESCRIPTION | | | | | | | |
| 1 | | W4RB-0 | [Lithology pattern: dots] | FILL Loose, moist, dark brown, SAND with brick fragments - trace fine to medium gravel - some yellowish brown sandstone fragments, clay content increases, brick in shoe | | SP | |
| | | W4RB-1 | | | | | |
| | | W4RB-2 | | | | | |
| | | W4RB-3 | | | | | |
| 2 | | | | BORING TERMINATED AT 2.55 METERS | | | |

Figure A35, Log of Boring W4RB, page 1 of 1

ENV_NO_WELL YERBA.GPJ 04/10/01

| | |
|----------------------|----------------------------------|
| BORING ELEVATION: NA | ENGINEER/GEOLOGIST: TRAVIS MILLS |
|----------------------|----------------------------------|

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. E8000-06-13

| DEPTH IN METERS | PENETRAT. RESIST. BLOWS/FT. | SAMPLE NO. | LITHOLOGY | BORING NO. W4RC | | SOIL (USCS) | HEADSPACE (PPM) | |
|-----------------------|-----------------------------------|---------------|--------------------------------------|--|-------------------|----------------|--------------------|--|
| | | | | DATE DRILLED 1/29/01 | WATER LEVEL (ATD) | | | |
| | | | | EQUIPMENT HAND-AUGER DRILLER GEOCON | | | | |
| | | | | SOIL DESCRIPTION | | | | |
| 1 | | W4RC-0 | [Lithology symbol: stippled pattern] | FILL | | SP | | |
| | | W4RC-1 | | Loose, moist, dark brown, fine to medium SAND with some silt and roots | | | | |
| | | W4RC-2 | | Loose, damp, yellowish brown, fine SAND with trace gravel | | SP | | |
| | | W4RC-3 | | REFUSAL - BORING TERMINATED AT 1.05 METERS | | | | |

Figure A36, Log of Boring W4RC, page 1 of 1

ENV_NO_WELL YERBA.GPJ 04/10/01

| | |
|----------------------|----------------------------------|
| BORING ELEVATION: NA | ENGINEER/GEOLOGIST: TRAVIS MILLS |
|----------------------|----------------------------------|

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. E8000-06-13

| DEPTH IN METERS | PENETRAT. RESIST. BLOWS/FT. | SAMPLE NO. | LITHOLOGY | BORING NO. W4RD | | SOIL (USCS) | HEADSPACE (PPM) |
|-----------------------|-----------------------------------|---------------|---|--|-------------------|----------------|--------------------|
| | | | | DATE DRILLED 1/31/01 | WATER LEVEL (ATD) | | |
| | | | | EQUIPMENT GEOPROBE DRILLER GREGG DRILLING | | | |
| | | | | SOIL DESCRIPTION | | | |
| | | W4RD-0 |  | 0.15 METERS ASPHALT | | SP | |
| | | W4RD-1 |  | Loose, moist, light brown, fine to medium SAND | | | |
| 1 | | W4RD-2 |  | | | | |
| | | W4RD-3 |  | GRAVEL - SANDSTONE | | GP | |
| | | W4RD-5 |  | | | | |
| 2 | | W4RD-7 |  | | | | |
| | | | | REFUSAL - BORING TERMINATED AT 2.44 METERS | | | |

Figure A37, Log of Boring W4RD, page 1 of 1

ENV_NO_WELL YERBA.GPJ 04/10/01

| | |
|----------------------|--------------------------------|
| BORING ELEVATION: NA | ENGINEER/GEOLOGIST: MATT HANKO |
|----------------------|--------------------------------|

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. E8000-06-13

| DEPTH IN METERS | PENETRAT. RESIST. BLOWS/FT. | SAMPLE NO. | LITHOLOGY | BORING NO. W5AL | | SOIL (USCS) | HEADSPACE (PPM) |
|-----------------------|-----------------------------------|--------------------------------------|----------------|--|-------------------|----------------|--------------------|
| | | | | DATE DRILLED 1/23/01 | WATER LEVEL (ATD) | | |
| | | | | EQUIPMENT GEOPROBE DRILLER GREGG DRILLING | | | |
| SOIL DESCRIPTION | | | | | | | |
| | | W5AL-0 W5AL-1 W5AL-2 W5AL-3 | 3.7 CM ASPHALT | Loose, damp, reddish brown, fine SAND with some silt | | SM | |
| 1 | | | | | | | |
| | | W5AL-4 | | Loose, damp, black, fine SAND with some silt | | | |
| 2 | | | | | | | |
| | | W5AL-5 | | BORING TERMINATED AT 3.05 METERS | | SM | |
| 3 | | | | | | | |

Figure A44, Log of Boring W5AL, page 1 of 1

ENV_NO_WELL YERBA.GPJ 04/10/01

BORING ELEVATION: NA

ENGINEER/GEOLOGIST: WEST BOURGAULT

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. E8000-06-13

| DEPTH IN METERS | PENETRAT. RESIST. BLOWS/FT. | SAMPLE NO. | LITHOLOGY | BORING NO. W5LA | | SOIL (USCS) | HEADSPACE (PPM) |
|-----------------------|---------------------------------------|----------------------------|-----------|--|-------------------|----------------|--------------------|
| | | | | DATE DRILLED 1/24/01 | WATER LEVEL (ATD) | | |
| | | | | EQUIPMENT GEOPROBE DRILLER GREGG DRILLING | | | |
| | | | | SOIL DESCRIPTION | | | |
| 1 | | W5LA-0 W5LA-1 W5LA-2 | | 7.5 CM ASPHALT | | SP | |
| | WEATHERED SANDSTONE | | | | | | |
| | Loose, damp, reddish brown, fine SAND | | | | | | |
| | | | | BORING TERMINATED AT 1.22 METERS DUE TO PIPE | | | |

Figure A45, Log of Boring W5LA, page 1 of 1

ENV_NO_WELL YERBA.GPJ 04/10/01

| | | | |
|-------------------|----|---------------------|----------------|
| BORING ELEVATION: | NA | ENGINEER/GEOLOGIST: | WEST BOURGAULT |
|-------------------|----|---------------------|----------------|

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. E8000-06-13

| DEPTH IN METERS | PENETRAT. RESIST. BLOWS/FT. | SAMPLE NO. | LITHOLOGY | BORING NO. W5LB | | SOIL (USCS) | HEADSPACE (PPM) |
|----------------------------------|-----------------------------|------------|---|--|-------------------|-------------|-----------------|
| | | | | DATE DRILLED 1/24/01 | WATER LEVEL (ATD) | | |
| | | | | EQUIPMENT GEOPROBE DRILLER GREGG DRILLING | | | |
| SOIL DESCRIPTION | | | | | | | |
| 1 | | W5LB-0 | [Lithology symbols: horizontal lines for asphalt, dots for fill, and a stippled pattern for sand] | 0.037 METERS ASPHALT | | SM | |
| | | W5LB-1 | | Fill | | | |
| | | W5LB-2 | | Loose, damp, black, Silty SAND | | | |
| | | W5LB-3 | | Loose, damp, reddish brown, fine, poorly graded SAND | | SP | |
| 2 | | W5LB-5 | | | | | |
| 3 | | W5LB-10 | | | | | |
| BORING TERMINATED AT 3.66 METERS | | | | | | | |

Figure A46, Log of Boring W5LB, page 1 of 1

ENV_NO_WELL YERBA.GPJ 04/10/01

| | |
|----------------------|------------------------------------|
| BORING ELEVATION: NA | ENGINEER/GEOLOGIST: WEST BOURGAULT |
|----------------------|------------------------------------|

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. E8000-06-13

| DEPTH IN METERS | PENETRAT. RESIST. BLOWS/FT. | SAMPLE NO. | LITHOLOGY | BORING NO. W5LC | | SOIL (USCS) | HEADSPACE (PPM) |
|-----------------------|-----------------------------------|--------------------------------------|-------------------|--|-------------------|----------------|--------------------|
| | | | | DATE DRILLED 1/24/01 | WATER LEVEL (ATD) | | |
| | | | | EQUIPMENT GEOPROBE DRILLER GREGG DRILLING | | | |
| SOIL DESCRIPTION | | | | | | | |
| | | W5LC-0 W5LC-1 W5LC-2 W5LC-3 | [Pattern: Dotted] | 0.05 METERS ASPHALT Fill Loose, Dry, black, Silty SAND Loose, damp, reddish brown, fine, poorly graded SAND | | SM SP | |
| 1 | | | | | | | |
| | | W5LC-5 | [Pattern: Dotted] | | | | |
| 2 | | | | | | | |
| | | W5LC-12 | [Pattern: Dotted] | | | | |
| 3 | | | | | | | |
| | | | | BORING TERMINATED AT 3.66 METERS | | | |

Figure A47, Log of Boring W5LC, page 1 of 1

ENV_NO_WELL YERBA.GPJ 04/10/01

| | |
|----------------------|------------------------------------|
| BORING ELEVATION: NA | ENGINEER/GEOLOGIST: WEST BOURGAULT |
|----------------------|------------------------------------|

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. E8000-06-13

| DEPTH IN METERS | PENETRAT. RESIST. BLOWS/FT. | SAMPLE NO. | LITHOLOGY | BORING NO. W5LD | | SOIL (USCS) | HEADSPACE (PPM) |
|-----------------------|-----------------------------------|-----------------|-----------|--|-------------------|----------------|--------------------|
| | | | | DATE DRILLED 1/24/01 | WATER LEVEL (ATD) | | |
| | | | | EQUIPMENT GEOPROBE DRILLER GREGG DRILLING | | | |
| SOIL DESCRIPTION | | | | | | | |
| | | W5LD-0 0800 | [Pattern] | 0.05 METERS ASPHALT FILL | | SM | |
| | | W5LD-1 0801 | [Pattern] | Loose, dry, black, Silty SAND | | SP | |
| 1 | | W5LD-2 0803 | [Pattern] | Loose, damp, red-brown, fine SAND, poorly sorted | | | |
| | | W5LD-3 0805 | [Pattern] | | | | |
| 2 | | W5LD-5 0815 | [Pattern] | | | | |
| 3 | | W5LD-12 0819 | [Pattern] | | | | |
| | | | | BORING TERMINATED AT 3.66 METERS | | | |

Figure A48, Log of Boring W5LD, page 1 of 1

ENV_NO_WELL YERBA.GPJ 04/1001

| | |
|----------------------|------------------------------------|
| BORING ELEVATION: NA | ENGINEER/GEOLOGIST: WEST BOURGAULT |
|----------------------|------------------------------------|

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. E8000-06-13

| DEPTH IN METERS | PENETRAT. RESIST. BLOWS/FT. | SAMPLE NO. | LITHOLOGY | BORING NO. W5RA | | SOIL (USCS) | HEADSPACE (PPM) |
|----------------------------------|-----------------------------|------------|--|----------------------|-------------------|------------------------|-----------------|
| | | | | DATE DRILLED 1/23/01 | WATER LEVEL (ATD) | | |
| | | | | EQUIPMENT | GEOPROBE | DRILLER GREGG DRILLING | |
| SOIL DESCRIPTION | | | | | | | |
| | | W5RA-0 | 0.075 METERS ASPHALT | | | | |
| | | W5RA-1 | Loose, moist, black, Silty SAND | | | SM | |
| | | W5RA-2 | Loose, damp, reddish brown, fine poorly graded SAND | | | SP | |
| 1 | | W5RA-3 | | | | | |
| | | W5RA-5 | | | | | |
| 2 | | | Soft, damp, black CLAY | | | CL | |
| | | | Loose, damp, reddish brown, fine, poorly graded SAND | | | | |
| 3 | | | | | | SP | |
| 4 | | W5RA-6 | | | | | |
| BORING TERMINATED AT 4.27 METERS | | | | | | | |

Figure A40, Log of Boring W5RA, page 1 of 1

ENV_NO_WELL YERBA.GPJ 04/10/01

| | |
|----------------------|------------------------------------|
| BORING ELEVATION: NA | ENGINEER/GEOLOGIST: WEST BOURGAULT |
|----------------------|------------------------------------|

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. E8000-06-13

| DEPTH IN METERS | PENETRAT. RESIST. BLOWS/FT. | SAMPLE NO. | LITHOLOGY | BORING NO. W5RB | | SOIL (USCS) | HEADSPACE (PPM) |
|-----------------------|-----------------------------------|---------------|-----------|--|-------------------|------------------------|--------------------|
| | | | | DATE DRILLED 1/23/01 | WATER LEVEL (ATD) | | |
| | | | | EQUIPMENT | GEOPROBE | DRILLER GREGG DRILLING | |
| SOIL DESCRIPTION | | | | | | | |
| | | WSRB-0 | | 0.075 METERS ASPHALT | | SM | |
| | | WSRB-1 | | FILL | | | |
| | | WSRB-2 | | Loose, damp, brown, Silty SAND | | SP | |
| | | WSRB-3 | | Loose, damp, reddish brown, fine, poorly graded SAND | | | |
| 1 | | | | | | | |
| | | WSRB-5 | | | | | |
| 2 | | | | | | | |
| | | | | | | | |
| 3 | | | | | | | |
| | | | | | | | |
| 4 | | | | | | | |
| | | WSRB-14 | | BORING TERMINATED AT 4.27 METERS | | | |

Figure A41, Log of Boring W5RB, page 1 of 1

ENV_NO_WELL_YERBA.GPJ 04/10/01

| | | | |
|-------------------|----|---------------------|----------------|
| BORING ELEVATION: | NA | ENGINEER/GEOLOGIST: | WEST BOURGAULT |
|-------------------|----|---------------------|----------------|

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. E8000-06-13

| DEPTH IN METERS | PENETRAT. RESIST. BLOWS/FT. | SAMPLE NO. | LITHOLOGY | BORING NO. W5RC | | SOIL (USCS) | HEADSPACE (PPM) |
|------------------|-----------------------------|------------|----------------------------------|---|-------------------|-------------|-----------------|
| | | | | DATE DRILLED 1/29/01 | WATER LEVEL (ATD) | | |
| | | | | EQUIPMENT | HAND-AUGER | DRILLER | GEOCON |
| SOIL DESCRIPTION | | | | | | | |
| | | W5RC-0 | | Loose, damp, dark brown, fine, Silty SAND | | SM | |
| | | W5RC-1 | | Moderately dense, damp, yellowish brown to brown, fine SAND | | SP | |
| 1 | | W5RC-2 | | | | | |
| | | W5RC-3 | | | | | |
| 2 | | W5RC-5 | | - moisture content increases to wet | | | |
| | | W5RC-9.5 | | | | | |
| 3 | | | BORING TERMINATED AT 3.05 METERS | | | | |

Figure A43, Log of Boring W5RC, page 1 of 1

ENV_NO_WELL YERBA.GPJ 04/10/01

| | |
|----------------------|----------------------------------|
| BORING ELEVATION: NA | ENGINEER/GEOLOGIST: TRAVIS MILLS |
|----------------------|----------------------------------|

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. E8000-06-13

| DEPTH IN METERS | PENETRAT. RESIST. BLOWS/FT. | SAMPLE NO. | LITHOLOGY | BORING NO. W5RD | | SOIL (USCS) | HEADSPACE (PPM) |
|------------------|-----------------------------|------------|-----------|---|-------------------|-------------|-----------------|
| | | | | DATE DRILLED 1/29/01 | WATER LEVEL (ATD) | | |
| | | | | EQUIPMENT | HAND-AUGER | DRILLER | GEOCON |
| SOIL DESCRIPTION | | | | | | | |
| 1 | | W5RD-0 | ☒ | Loose, damp, dark brown, Silty SAND with roots | | SM | |
| | | W5RD-1 | ☒ | Moderately dense, damp, dark yellowish brown, fine Silty SAND | | SM | |
| | | W5RD-2 | ☒ | | | | |
| | | W5RD-3 | ☒ | Dense, damp, dark yellowish brown, fine SAND | | SP | |
| | | W5RD-5 | ☒ | | | | |
| 2 | | | | | | | |
| 3 | | | | | | | |
| | | W5RD-12 | ☒ | BORING TERMINATED AT 3.66 METERS | | | |

Figure A42, Log of Boring W5RD, page 1 of 1

ENV_NO_WELL YERBA.GPJ 04/10/01

| | |
|----------------------|----------------------------------|
| BORING ELEVATION: NA | ENGINEER/GEOLOGIST: TRAVIS MILLS |
|----------------------|----------------------------------|

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. E8000-06-13

| DEPTH IN METERS | PENETRAT. RESIST. BLOWS/FT. | SAMPLE NO. | LITHOLOGY | BORING NO. W6CA | | SOIL (USCS) | HEADSPACE (PPM) |
|----------------------------------|-----------------------------|------------|--|----------------------|-------------------|------------------------|-----------------|
| | | | | DATE DRILLED 1/29/01 | WATER LEVEL (ATD) | | |
| | | | | EQUIPMENT | GEOPROBE | DRILLER GREGG DRILLING | |
| SOIL DESCRIPTION | | | | | | | |
| | | W6CA-0 | 0.15 METERS ASPHALT | | | | |
| | | W6CA-1 | FILL | | | GP | |
| | | W6CA-2 | Crushed rock - SANDSTONE | | | | 0 |
| 1 | | W6CA-3 | Loose, slightly moist, light brown (10YR 5/3), fine to medium SAND | | | | |
| | | W6CA-5 | | | | SP | 0 |
| 2 | | | | | | | |
| 3 | | | | | | | |
| | | W6CA-12 | | | | | |
| BORING TERMINATED AT 3.66 METERS | | | | | | | 0 |

Figure A53, Log of Boring W6CA, page 1 of 1

ENV_NO_WELL YERBA.GPJ 04/10/01

| | |
|----------------------|--------------------------------|
| BORING ELEVATION: NA | ENGINEER/GEOLOGIST: MATT HANKO |
|----------------------|--------------------------------|

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. E8000-06-13

| DEPTH IN METERS | PENETRAT. RESIST. BLOWS/FT. | SAMPLE NO. | LITHOLOGY | BORING NO. W6CB | | SOIL (USCS) | HEADSPACE (PPM) |
|-----------------------|-----------------------------------|---------------|---|----------------------------------|-------------------|------------------------|--------------------|
| | | | | DATE DRILLED 1/29/01 | WATER LEVEL (ATD) | | |
| | | | | EQUIPMENT | GEOPROBE | DRILLER GREGG DRILLING | |
| SOIL DESCRIPTION | | | | | | | |
| | | | 0.15 METERS ASPHALT | | | | |
| | | W6CB-1 | FILL | | | GP | |
| | | W6CB-2 | Crushed rock - SANDSTONE | | | | 0 |
| 1 | | W6CB-3 | Loose, slightly moist, light brown (10YR-5/3) medium to fine grain SAND | | | SP | |
| | | W6CB-5 | | | | | 0 |
| 2 | | | | | | | |
| 3 | | | | | | | |
| | | W6CB-12 | | BORING TERMINATED AT 3.66 METERS | | | 0 |

Figure A54, Log of Boring W6CB, page 1 of 1

ENV_NO_WELL YERBA.GPJ 04/10/01

| | |
|----------------------|--------------------------------|
| BORING ELEVATION: NA | ENGINEER/GEOLOGIST: MATT HANKO |
|----------------------|--------------------------------|

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. E8000-06-13

| DEPTH IN METERS | PENETRAT. RESIST. BLOWS/FT. | SAMPLE NO. | LITHOLOGY | BORING NO. W6LA | | SOIL (USCS) | HEADSPACE (PPM) |
|------------------|-----------------------------|------------|-----------|---|-------------------|-------------|-----------------|
| | | | | DATE DRILLED | WATER LEVEL (ATD) | | |
| | | | | 1/29/01 | | | |
| | | | | EQUIPMENT GEOPROBE DRILLER GREGG DRILLING | | | |
| SOIL DESCRIPTION | | | | | | | |
| | | | | 0.15 METERS ASPHALT | | | |
| | | | | Loose, slightly moist, light brown (10 YR 5/3), fine to medium SAND | | SP | |
| 1 | | W6LA-1 | | | | | |
| | | W6LA-2 | | | | | |
| | | W6LA-3 | | | | | |
| 2 | | W6LA-5 | | | | | |
| | | W6LA-9 | | BORING TERMINATED AT 2.74 METERS | | | |

Figure A50, Log of Boring W6LA, page 1 of 1

ENV_NO_WELL YERBA.GPJ 04/10/01

| | | | |
|-------------------|----|---------------------|------------|
| BORING ELEVATION: | NA | ENGINEER/GEOLOGIST: | MATT HANKO |
|-------------------|----|---------------------|------------|

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. E8000-06-13

| DEPTH IN METERS | PENETRAT. RESIST. BLOWS/FT. | SAMPLE NO. | LITHOLOGY | BORING NO. W6LB | | SOIL (USCS) | HEADSPACE (PPM) |
|-----------------|-----------------------------|------------|-----------|---|-------------------|-------------|-----------------|
| | | | | DATE DRILLED 1/29/01 | WATER LEVEL (ATD) | | |
| | | | | EQUIPMENT GEOPROBE DRILLER GREGG DRILLING | | | |
| | | | | SOIL DESCRIPTION | | | |
| | | W6LB-0 | | 0.15 METERS ASPHALT | | | |
| 1 | | W6LB-1 | | Loose, dry, light brown (10YR 5/3), fine to medium SAND | | SP | 0 |
| | | W6LB-2 | | | | | |
| | | W6LB-3 | | | | | |
| | | W6LB-5 | | | | | |
| 2 | | W6LB-9 | | BORING TERMINATED AT 2.74 METERS | | | 0 |

Figure A51, Log of Boring W6LB, page 1 of 1

ENV_NO_WELL YERBA.GPJ 04/10/01

| | |
|----------------------|--------------------------------|
| BORING ELEVATION: NA | ENGINEER/GEOLOGIST: MATT HANKO |
|----------------------|--------------------------------|

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. E8000-06-13

| DEPTH IN METERS | PENETRAT. RESIST. BLOWS/FT. | SAMPLE NO. | LITHOLOGY | BORING NO. W6LC | | SOIL (USCS) | HEADSPACE (PPM) |
|-----------------------|-----------------------------------|---------------|---------------------|--|-------------------|----------------|--------------------|
| | | | | DATE DRILLED 1/29/01 | WATER LEVEL (ATD) | | |
| | | | | EQUIPMENT | GEOPROBE | DRILLER | GREGG DRILLING |
| SOIL DESCRIPTION | | | | | | | |
| | | W6LC-0 | 0.15 METERS ASPHALT | | | | |
| | | W6LC-1 | | Loose, slightly moist, light brown (10YR 5/3), fine to medium SAND | | SP | 0 |
| | | W6LC-2 | | | | | |
| 1 | | W6LC-3 | | | | | |
| | | W6LC-5 | | | | | |
| 2 | | W6LC-9 | | | | | |
| | | | | BORING TERMINATED AT 2.74 METERS | | | 0 |

Figure A52, Log of Boring W6LC, page 1 of 1

ENV_NO_WELL YERBA.GPJ 04/10/01

| | |
|----------------------|--------------------------------|
| BORING ELEVATION: NA | ENGINEER/GEOLOGIST: MATT HANKO |
|----------------------|--------------------------------|

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. E8000-06-13

| DEPTH IN METERS | PENETRAT. RESIST. BLOWS/FT. | SAMPLE NO. | LITHOLOGY | BORING NO. W6LD | | SOIL (USCS) | HEADSPACE (PPM) |
|-----------------|-----------------------------|------------|---|---|-------------------|-------------|-----------------|
| | | | | DATE DRILLED 1/29/01 | WATER LEVEL (ATD) | | |
| | | | | EQUIPMENT GEOPROBE DRILLER GREGG DRILLING | | | |
| | | | | SOIL DESCRIPTION | | | |
| | | W6LD-0 | 0.15 METERS ASPHALT | | | | |
| | | W6LD-1 | GRAVEL - SANDSTONE | | | | |
| 1 | | W6LD-2 | Loose, moist, light brown (10YR 5/3), fine to medium SAND | | | SP | 0 |
| | | W6LD-3 | | | | | |
| | | W6LD-5 | | | | | |
| 2 | | W6LD-9 | | | | | |
| | | | BORING TERMINATED AT 2.74 METERS | | | | 0 |

Figure A49, Log of Boring W6LD, page 1 of 1

ENV_NO_WELL YERBA.GPJ 04/10/01

| | | | |
|-------------------|----|---------------------|------------|
| BORING ELEVATION: | NA | ENGINEER/GEOLOGIST: | MATT HANKO |
|-------------------|----|---------------------|------------|

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. E8000-06-13

| DEPTH IN METERS | PENETRAT. RESIST. BLOWS/FT. | SAMPLE NO. | LITHOLOGY | BORING NO. W6RA | | SOIL (USCS) | HEADSPACE (PPM) | |
|-----------------------|-----------------------------------|---------------|-----------|---|-------------------------|----------------|--------------------|--|
| | | | | DATE DRILLED <u>1/30/01</u> | WATER LEVEL (ATD) _____ | | | |
| | | | | EQUIPMENT <u>HAND-AUGER</u> DRILLER <u>GEOCON</u> | | | | |
| | | | | SOIL DESCRIPTION | | | | |
| | | W6RA-0 | | Slightly moist, yellow SAND | | SP | | |
| | | W6RA-1 | | Loose, moist, yellow, very fine SAND | | | | |
| | | W6RA-2 | | | | SP | | |
| 1 | | W6RA-3 | | Loose, very dry, yellow, very fine SAND | | SP | | |
| | | W6RA-5 | | | | | | |
| 2 | | | | | | | | |
| 3 | | | | | | | | |
| 4 | | | | | | | | |
| 5 | | | | | | | | |
| | | W6RA-17 | | BORING TERMINATED AT 5.18 METERS | | | | |

Figure A56, Log of Boring W6RA, page 1 of 1

ENV_NO_WELL YERBAGPJ 04/10/01

| | |
|-----------------------------|---|
| BORING ELEVATION: NA | ENGINEER/GEOLOGIST: TRAVIS MILLS |
|-----------------------------|---|

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. E8000-06-13

| DEPTH IN METERS | PENETRAT. RESIST. BLOWS/FT. | SAMPLE NO. | LITHOLOGY | BORING NO. W6RB | | SOIL (USCS) | HEADSPACE (PPM) |
|-----------------------|-----------------------------------|---------------|----------------------------------|--|-------------------------|----------------|--------------------|
| | | | | DATE DRILLED <u>1/30/01</u> | WATER LEVEL (ATD) _____ | | |
| | | | | EQUIPMENT <u>HAND-AUGER</u> | DRILLER <u>GEOCON</u> | | |
| SOIL DESCRIPTION | | | | | | | |
| | | W6RB-0 | | Slightly moist, yellow, very fine SAND | | SP | |
| | | W6RB-1 | | Dry, yellow SAND | | | |
| | | W6RB-2 | | | | | |
| 1 | | W6RB-3 | | | | | |
| | | W6RB-5 | | | | | |
| 2 | | | | | | | |
| 3 | | W6RB-10 | BORING TERMINATED AT 3.05 METERS | | | | |

Figure A57, Log of Boring W6RB, page 1 of 1

ENV_NO_WELL YERBAGPJ 04/10/01

| | |
|-----------------------------|---|
| BORING ELEVATION: <u>NA</u> | ENGINEER/GEOLOGIST: <u>TRAVIS MILLS</u> |
|-----------------------------|---|

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. E8000-06-13

| DEPTH IN METERS | PENETRAT. RESIST. BLOWS/FT. | SAMPLE NO. | LITHOLOGY | BORING NO. W6RC | | SOIL (USCS) | HEADSPACE (PPM) | |
|-----------------------|-----------------------------------|---------------|-----------|--|-------------------|-------------------|--------------------|--|
| | | | | DATE DRILLED | WATER LEVEL (ATD) | | | |
| | | | | DATE DRILLED | 1/30/01 | WATER LEVEL (ATD) | | |
| | | | | EQUIPMENT | HAND-AUGER | DRILLER | GEOCON | |
| | | | | SOIL DESCRIPTION | | | | |
| 1 | | W6RC-0 | | Loose, dry, brown, fine SAND | | | SP | |
| | | W6RC-1 | | Loose, moist, brown, very fine SAND | | | | |
| | | W6RC-2 | | | | | | |
| | | W6RC-3 | | | | | | |
| | | W6RC-5 | | - turns brown with big fragmented rock | | | | |
| | | | | BORING TERMINATED AT 1.52 METERS | | | | |

Figure A58, Log of Boring W6RC, page 1 of 1

ENV_NO_WELL YERBA.GPJ 04/10/01

| | | | |
|-------------------|----|---------------------|--------------|
| BORING ELEVATION: | NA | ENGINEER/GEOLOGIST: | TRAVIS MILLS |
|-------------------|----|---------------------|--------------|

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. E8000-06-13

| DEPTH IN METERS | PENETRAT. RESIST. BLOWS/FT. | SAMPLE NO. | LITHOLOGY | BORING NO. W6RD | | SOIL (USCS) | HEADSPACE (PPM) |
|-----------------------|-----------------------------------|---------------|-----------|---|-------------------|----------------|--------------------|
| | | | | DATE DRILLED 1/30/01 | WATER LEVEL (ATD) | | |
| | | | | EQUIPMENT | HAND-AUGER | DRILLER | GEOCON |
| | | | | SOIL DESCRIPTION | | | |
| 1 | | W6RD-0 | | Loose, dry, brown SAND | | | SP |
| | | W6RD-1 | | Loose, moist, brown, very fine SAND | | | |
| | | W6RD-2 | | | | | |
| | | W6RD-3 | | - turns yellowish with chunks of fragemented rock | | | SP |
| | | W6RD-5 | | BORING TERMINATED AT 1.52 METERS | | | |

Figure A55, Log of Boring W6RD, page 1 of 1

ENV_NO_WELL YERBA.GPJ 04/10/01

| | |
|----------------------|----------------------------------|
| BORING ELEVATION: NA | ENGINEER/GEOLOGIST: TRAVIS MILLS |
|----------------------|----------------------------------|

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. E8000-06-13

| DEPTH IN METERS | PENETRAT. RESIST. BLOWS/FT. | SAMPLE NO. | LITHOLOGY | BORING NO. W7EC | | SOIL (USCS) | HEADSPACE (PPM) |
|-----------------------|-----------------------------------|---------------|-----------|---|-------------------|----------------|--------------------|
| | | | | DATE DRILLED 1/30/01 | WATER LEVEL (ATD) | | |
| | | | | EQUIPMENT HAND-AUGER DRILLER GEOCON | | | |
| | | | | SOIL DESCRIPTION | | | |
| 1 | | W7EC-0 | | Loose, moist, dark brown (10YR 3/2), fine SAND with 1-inch gravel | | SW | |
| | | W7EC-1 | | Loose, slightly moist, light brown (10YR 4/2) SAND | | | |
| | | W7EC-2 | | | | SP | |
| 2 | | W7EC-3 | | | | | |
| 3 | | W7EC-10 | | BORING TERMINATED AT 3.05 METERS | | | |

Figure A60, Log of Boring W7EC, page 1 of 1

ENV_NO_WELL YERBA.GPJ 04/10/01

| | |
|----------------------|----------------------------------|
| BORING ELEVATION: NA | ENGINEER/GEOLOGIST: TRAVIS MILLS |
|----------------------|----------------------------------|

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. E8000-06-13

| DEPTH IN METERS | PENETRAT. RESIST. BLOWS/FT. | SAMPLE NO. | LITHOLOGY | BORING NO. W7RC | | SOIL (USCS) | HEADSPACE (PFM) |
|-----------------|-----------------------------|------------|----------------------------------|---|-------------------|-------------|-----------------|
| | | | | DATE DRILLED 1/30/01 | WATER LEVEL (ATD) | | |
| | | | | EQUIPMENT GEOPROBE DRILLER GREGG DRILLING | | | |
| | | | | SOIL DESCRIPTION | | | |
| | | | 0.30 METERS ASPHALT | | | | |
| 1 | | W7RC-1 | | Loose, slightly moist, light brown (10YR 4/2) fine to medium SAND | SP | 0 | |
| | | W7RC-2 | | 0 | | | |
| | | W7RC-3 | | 0 | | | |
| | | W7RC-5 | | 0 | | | |
| 2 | | | | | | | |
| 3 | | | | | | | |
| 4 | | | - becomes dense | | | | |
| 5 | | | | | | | |
| | | W7RC-19 | - becomes wet | | | 0 | |
| | | | BORING TERMINATED AT 5.79 METERS | | | | |

Figure A59, Log of Boring W7RC, page 1 of 1

ENV_NO_WELL YERBAGP1 04/10/01

| | |
|----------------------|--------------------------------|
| BORING ELEVATION: NA | ENGINEER/GEOLOGIST: MATT HANKO |
|----------------------|--------------------------------|

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. E8000-06-13

| DEPTH IN METERS | PENETRAT. RESIST. BLOWS/FT. | SAMPLE NO. | LITHOLOGY | BORING NO. W7RD | | SOIL (USCS) | HEADSPACE (PPM) |
|------------------|-----------------------------|------------|--|---|-------------------|-------------|-----------------|
| | | | | DATE DRILLED 1/30/01 | WATER LEVEL (ATD) | | |
| | | | | EQUIPMENT GEOPROBE DRILLER GREGG DRILLING | | | |
| SOIL DESCRIPTION | | | | | | | |
| | | | 0.15 METERS ASPHALT | | | | |
| | | | 0.15 METERS GRAVEL BASE MATERIAL | | | | |
| | | W7RD-1 | Dry, light brown (10YR 4/2), fine to medium SAND | | | GP | |
| 1 | | W7RD-2 | | | | SP | 0 |
| | | W7RD-3 | | | | | |
| | | W7RD-5 | | | | | |
| 2 | | | | | | | |
| 3 | | | | | | | 0 |
| 4 | | | | | | | |
| | | W7RD-16 | | BORING TERMINATED AT 4.88 METERS | | | |

Figure A61, Log of Boring W7RD, page 1 of 1

ENV_NO_WELL YERBA.GPJ 04/10/01

| | |
|----------------------|--------------------------------|
| BORING ELEVATION: NA | ENGINEER/GEOLOGIST: MATT HANKO |
|----------------------|--------------------------------|

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. E8000-06-13

| DEPTH IN METERS | PENETRAT. RESIST. BLOWS/FT. | SAMPLE NO. | LITHOLOGY | BORING NO. W8EC | | SOIL (USCS) | HEADSPACE (PPM) |
|-----------------------|-----------------------------------|---------------|---|---|---------------------------|----------------|--------------------|
| | | | | DATE DRILLED 1/29/01 | WATER LEVEL (ATD) | | |
| | | | | EQUIPMENT | HAND-AUGER DRILLER GEOCON | | |
| SOIL DESCRIPTION | | | | | | | |
| | | W8EC-0 |  | Wet, dark brown, Clayey GRAVEL some sand | | GC | |
| | | W8EC-1 |  | Moist, dark brown, medium to fine Sandy GRAVEL, some clay | | GP | |
| | | W8EC-2 |  | BORING TERMINATED AT 0.61 METERS | | | |

Figure A63, Log of Boring W8EC, page 1 of 1

ENV_NO_WELL YERBA.GPJ 04/10/01

| | |
|----------------------|----------------------------------|
| BORING ELEVATION: NA | ENGINEER/GEOLOGIST: TRAVIS MILLS |
|----------------------|----------------------------------|

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. E8000-06-13

| DEPTH IN METERS | PENETRAT. RESIST. BLOWS/FT. | SAMPLE NO. | LITHOLOGY | BORING NO. W8ED | | SOIL (USCS) | HEADSPACE (PPM) | |
|-----------------------|-----------------------------------|---------------|---|--|-------------------|----------------|--------------------|--|
| | | | | DATE DRILLED 1/29/01 | WATER LEVEL (ATD) | | | |
| | | | | EQUIPMENT HAND-AUGER DRILLER GEOCON | | | | |
| | | | | SOIL DESCRIPTION | | | | |
| | | W8ED-0 |  | Very dark brown Silty SAND and roots Loose, yellowish brown, fine SAND, trace fine gravel | | SP | | |
| | | W8ED-1 | | | | | | |
| | | W8ED-2 | | BORING TERMINATED AT 0.61 METERS | | | | |

Figure A62, Log of Boring W8ED, page 1 of 1

ENV_NO_WELL YERBA.GPJ 04/10/01

| | |
|----------------------|----------------------------------|
| BORING ELEVATION: NA | ENGINEER/GEOLOGIST: TRAVIS MILLS |
|----------------------|----------------------------------|

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. E8000-06-13

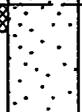
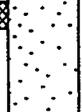
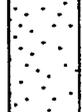
| DEPTH IN METERS | PENETRAT. RESIST. BLOWS/FT. | SAMPLE NO. | LITHOLOGY | BORING NO. W9LB | | SOIL (USCS) | HEADSPACE (PPM) |
|-----------------------|-----------------------------------|---------------|--|--|-------------------|----------------|--------------------|
| | | | | DATE DRILLED 2/1/01 | WATER LEVEL (ATD) | | |
| | | | | EQUIPMENT GEOPROBE DRILLER GREGG DRILLING | | | |
| | | | | SOIL DESCRIPTION | | | |
| | | | | 0.15 METERS ASPHALT | | | |
| | | W9LB-1 |  | ROAD BASE | | | |
| | | W9LB-2 |  | Dense, dry, light brown (10YR 4/2) Sandy GRAVEL | | GP | 0 |
| 1 | | W9LB-3 |  | Loose, dry, light brown (10YR 4/2) fine to medium SAND | | SP | 0 |
| | | W9LB-5 |  | | | | 0 |
| 2 | | | | | | | |
| | | W9LB-11 |  | | | | 0 |
| 3 | | | | | | | |
| | | | | BORING TERMINATED AT 3.66 METERS | | | |

Figure A64, Log of Boring W9LB, page 1 of 1

ENV_NO_WELL YERBA.GPJ 04/10/01

| | |
|----------------------|--------------------------------|
| BORING ELEVATION: NA | ENGINEER/GEOLOGIST: MATT HANKO |
|----------------------|--------------------------------|

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. E8000-06-13

| DEPTH IN METERS | PENETRAT. RESIST. BLOWS/FT. | SAMPLE NO. | LITHOLOGY | BORING NO. W10ALA | | SOIL (USCS) | HEADSPACE (PPM) |
|------------------|-----------------------------|------------|----------------------------------|--------------------------------------|-------------------|-------------|-----------------|
| | | | | DATE DRILLED 1/31/01 | WATER LEVEL (ATD) | | |
| | | | | EQUIPMENT HAND-AUGER | DRILLER GEOCON | | |
| SOIL DESCRIPTION | | | | | | | |
| | | | | 0.30 METERS ASPHALT BASE | | | |
| | | W10ALA-1 | | BIG ROCK AND GRAVEL WITH SAND | | GP | |
| | | W10ALA-2 | | | | | |
| 1 | | W10ALA-3 | | Dense, moist, light brown, fine SAND | | SP | |
| 2 | | W10ALA-5 | | | | | |
| 3 | | | | | | | |
| 4 | | | | | | | |
| | | W10ALA-14 | BORING TERMINATED AT 4.27 METERS | | | | |

Figure A67, Log of Boring W10ALA, page 1 of 1

ENV_NO_WELL YERBA.GPJ 04/10/01

| | |
|----------------------|----------------------------------|
| BORING ELEVATION: NA | ENGINEER/GEOLOGIST: TRAVIS MILLS |
|----------------------|----------------------------------|

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. E8000-06-13

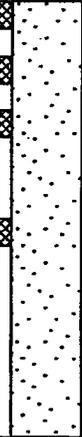
| DEPTH IN METERS | PENETRAT. RESIST. BLOWS/FT. | SAMPLE NO. | LITHOLOGY | BORING NO. W10ALB | | SOIL (USCS) | HEADSPACE (PPM) |
|-----------------------|-----------------------------------|----------------------------------|--|-------------------------------------|-------------------|----------------|--------------------|
| | | | | DATE DRILLED 1/31/01 | WATER LEVEL (ATD) | | |
| | | | | EQUIPMENT HAND-AUGER DRILLER GEOCON | | | |
| SOIL DESCRIPTION | | | | | | | |
| | | | 0.30 METERS ASPHALT BASE | | | | |
| 1 | | W10ALB-1 W10ALB-2 W10ALB-3 |  | Loose, dry, brown SAND | | SP | |
| | | W10ALB-5 | | | | | |
| 2 | | W10ALB-9 | | | | | |
| | | | | BORING TERMINATED AT 2.74 METERS | | | |

Figure A68, Log of Boring W10ALB, page 1 of 1

ENV_NO_WELL YERBA.GPJ 04/10/01

| | |
|----------------------|----------------------------------|
| BORING ELEVATION: NA | ENGINEER/GEOLOGIST: TRAVIS MILLS |
|----------------------|----------------------------------|

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. E8000-06-13

| DEPTH IN METERS | PENETRAT. RESIST. BLOWS/FT. | SAMPLE NO. | LITHOLOGY | BORING NO. W10CD | | SOIL (USCS) | HEADSPACE (PPM) |
|-----------------------|-----------------------------------|---------------|----------------------------------|--|-------------------|------------------------|--------------------|
| | | | | DATE DRILLED 2/1/01 | WATER LEVEL (ATD) | | |
| | | | | EQUIPMENT | | | |
| | | | | GEOPROBE | | DRILLER GREGG DRILLING | |
| SOIL DESCRIPTION | | | | | | | |
| 1 | | W10CD-0 | | FILL Loose, fine Sandy GRAVEL | | GP | |
| | | W10CD-1 | | Loose, slightly moist, light brown (10YR 4/2) SAND | | SP | |
| | | W10CD-2 | | | | | |
| | | W10CD-3 | | | | | |
| 2 | | W10CD-5 | | | | | |
| 3 | | W10CD-10 | BORING TERMINATED AT 3.05 METERS | | | | |

Figure A66, Log of Boring W10CD, page 1 of 1

ENV_NO_WELL YERBA.GPJ 04/10/01

| | |
|----------------------|--------------------------------|
| BORING ELEVATION: NA | ENGINEER/GEOLOGIST: MATT HANKO |
|----------------------|--------------------------------|

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. E8000-06-13

| DEPTH IN METERS | PENETRAT. RESIST. BLOWS/FT. | SAMPLE NO. | LITHOLOGY | BORING NO. W10LA | | SOIL (USCS) | HEADSPACE (PPM) |
|-----------------------|-----------------------------------|-------------------------------|------------------------------|---|-------------------|----------------|----------------------------------|
| | | | | DATE DRILLED 1/31/01 | WATER LEVEL (ATD) | | |
| | | | | EQUIPMENT | HAND-AUGER | DRILLER | GEOCON |
| SOIL DESCRIPTION | | | | | | | |
| | | | 0.30 METERS ASPHALT AND BASE | | | | |
| 1 | | W10LA-1 W10LA-2 W10LA-3 | | Dense, light brown, fine grained SAND - turned reddish | | SP | |
| 2 | | W10LA-5 | | | | | |
| 3 | | W10LA-10 | | | | | |
| | | | | | | | BORING TERMINATED AT 3.05 METERS |

Figure A65, Log of Boring W10LA, page 1 of 1

ENV_NO_WELL YERBA.GPJ 04/10/01

| | |
|----------------------|----------------------------------|
| BORING ELEVATION: NA | ENGINEER/GEOLOGIST: TRAVIS MILLS |
|----------------------|----------------------------------|

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

PROJECT NO. E8000-06-13

| DEPTH IN METERS | PENETRAT. RESIST. BLOWS/FT. | SAMPLE NO. | LITHOLOGY | BORING NO. W11RB | | SOIL (USCS) | HEADSPACE (PPM) |
|-----------------------|-----------------------------------|---------------|----------------------|-------------------------------------|-------------------|----------------|--------------------|
| | | | | DATE DRILLED 2/1/01 | WATER LEVEL (ATD) | | |
| | | | | EQUIPMENT HAND-AUGER DRILLER GEOCON | | | |
| | | | | SOIL DESCRIPTION | | | |
| | | W11RB-0 | Decorative Lava Rock | DECORATIVE LAVA ROCK COVER | | GP | |
| | | W11RB-1 | | Dense, dry, light brown SAND | | SP | |
| 1 | | W11RB-2 | | | | | |
| | | W11RB-3 | | | | | |
| | | W11RB-5 | | | | | |
| 2 | | | | | | | |
| | | | | | | | |
| 3 | | | | - becomes dark brown | | | |
| | | W11RB-12 | | BORING TERMINATED AT 3.66 METERS | | | |

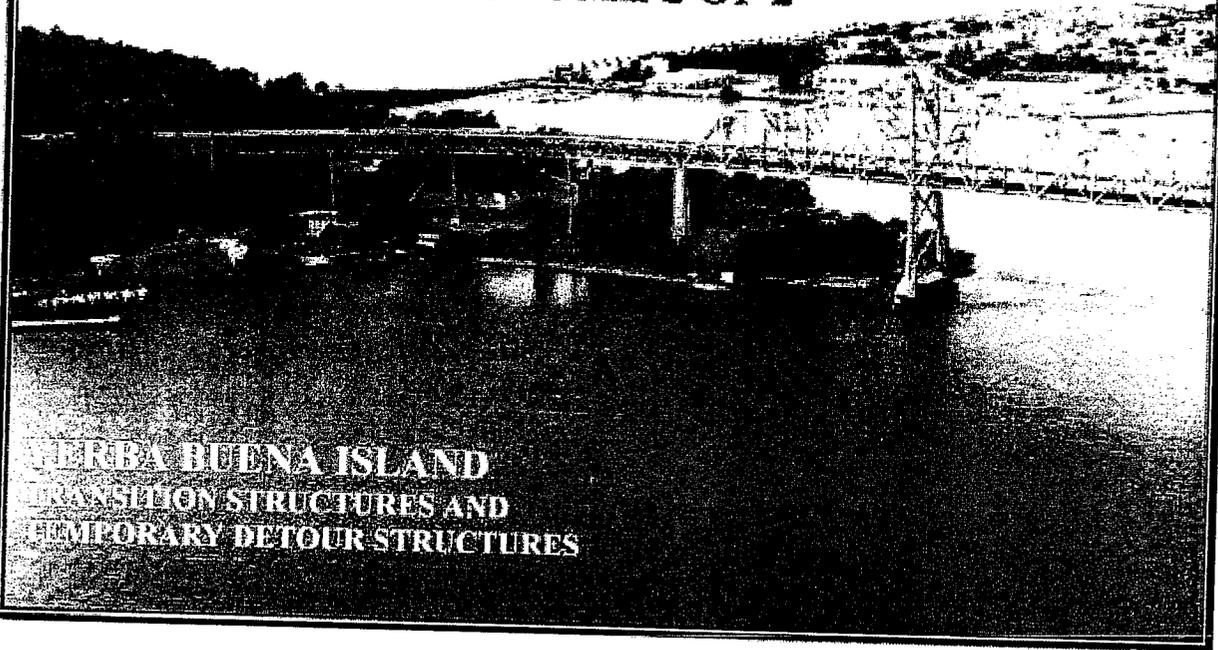
Figure A69, Log of Boring W11RB, page 1 of 1

ENV_NO_WELL YERBA.GPJ 04/10/01

| | |
|----------------------|----------------------------------|
| BORING ELEVATION: NA | ENGINEER/GEOLOGIST: TRAVIS MILLS |
|----------------------|----------------------------------|

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

**SITE INVESTIGATION REPORT
SFOBB EAST SPAN SEISMIC SAFETY PROJECT
VOLUME 2 OF 2**



PREPARED FOR:

CALIFORNIA DEPARTMENT OF TRANSPORTATION
DISTRICT 4
DIVISION OF TOLL BRIDGE PROGRAM
111 GRAND AVENUE
OAKLAND, CALIFORNIA

PREPARED BY:

CALIFORNIA DEPARTMENT OF TRANSPORTATION
DISTRICT 4
DIVISION OF TOLL BRIDGE PROGRAM
ENVIRONMENTAL ENGINEERING BRANCH
111 GRAND AVENUE
OAKLAND, CALIFORNIA

AND

GEOCON CONSULTANTS, INC.
2356 RESEARCH DRIVE
LIVERMORE, CALIFORNIA

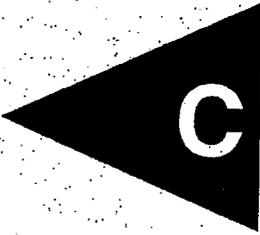


GEOCON

CONTRACT 43A0012
TASK ORDER NO. 04-012000-FC

JUNE 2001

APPENDIX



C

Laboratory reports and chain-of-custody documentation are available for review at the District 4 office, 111 Grand Avenue, Oakland, California 94612, (510) 286-5636. There are approximately 2000 sheets.

APPENDIX

D

APPENDIX D

STATISTICAL EVALUATION FOR LEAD DETECTED IN SOIL SAMPLES

D.1 Statistical Evaluation for Lead Detected in Soil Samples

Statistical methods were applied to the total lead data to evaluate: 1) the distribution of total lead concentrations for each sampling depth; 2) the upper one-sided confidence limits (UCLs) of the true means of the total lead concentrations for each sampling depth; and 3) if an acceptable correlation between total and soluble lead concentrations exists that would allow the prediction of soluble lead concentrations based on calculated UCLs. The statistical methods used are provided in *Statistical Methods for Environmental Pollution Monitoring*, by Richard Gilbert and *Statistics and Data Analysis in Geology*, by John Davis.

D.1.1 Distribution of Total Lead Concentrations

The presence of non-detects and/or low concentrations in total lead data sets can strongly skew sample data towards low values. In these cases, the data is often lognormally distributed and classical statistical methods do not work properly since they assume that the data exhibit an underlying normal distribution. Consequently, it is necessary to evaluate the distributions of the total and lead data sets to apply the appropriate methods when determining the UCLs on the true total lead means. When evaluating the distribution of total lead concentrations, each sampling depth was treated as a separate data set.

To obtain a visual impression of the shape of the total lead data sets (i.e., sampling depths), histograms were constructed to show the frequency of total lead concentrations (x_i) and the frequency of the natural log transformed total lead concentrations ($y_i = \ln(x_i)$). The histograms are presented as a portion of Appendix D. In general, the histograms indicate, qualitatively, that the soil samples collected from the surface appear to be lognormally distributed. Histograms for the other non-transformed data sets do not appear to be any more or less skewed than the natural log transformed total lead data sets.

As a more quantitative procedure, *D'Agostinos Test*, as described in Gilbert (pgs. 160-162), was used to test the null hypothesis of underlying normal or lognormal distributions, or in other words, to test if either the non-transformed total lead data sets or the natural log-transformed total lead data sets are normally distributed. *The W Test* was performed on each data set at the $\alpha = 0.02$ significance level and indicated the following in the table below:

| Sampling Interval | Distribution |
|--------------------------|--|
| Surface | May be lognormal not normal (Assume lognormal) |
| 0.3 meter (1.0 foot) bgs | May be lognormal not normal (Assume lognormal) |
| 0.6 meter (2.0 feet) bgs | May be lognormal not normal (Assume lognormal) |
| 0.9 meter (3 feet) bgs | Neither normal nor lognormal (Assume normal) |
| 1.5 meters (5 feet) bgs | Neither normal nor lognormal (Assume normal) |

Consequently, the total lead concentrations for soil samples collected from the surface and depths of 0.3 and 0.6 meter (1 and 2 feet) bgs were assumed to be lognormally distributed. The remaining data sets were assumed to be normally distributed. The data used and the calculations for *D'Agostinos Test* are summarized as a portion of Appendix D.

D.1.2 Calculating the UCLs for the True Mean

The upper one-sided 90% and 95% confidence limits (UCLs) of the true mean are defined as the values that, when calculated repeatedly for randomly drawn subsets of site data, equal or exceed the true mean 90% and 95% of the time, respectively. Statistical confidence limits are the classical tool for addressing uncertainties of a distribution mean. The UCLs of the true mean concentration are used as the mean concentrations because it is not possible to know the true mean due to the essentially infinite number of soil samples that could be collected from the site. The UCLs therefore account for uncertainties due to limited sampling data. As data become less limited at a site, uncertainties decrease and the UCLs move closer to the true mean.

Procedures for obtaining the UCLs on the true mean for normal and lognormal distributions were used as described in Gilbert. UCLs were calculated for each sampling depth and are summarized in the table below:

| Sampling Interval | 90% UCL | 95% UCL | Distribution Theory |
|--------------------------|-----------|-----------|---------------------|
| Surface | 453 mg/kg | 513 mg/kg | Lognormal |
| 0.3 meter (1.0 foot) bgs | 143 mg/kg | 160 mg/kg | Lognormal |
| 0.6 meter (2.0 feet) bgs | 69 mg/kg | 78 mg/kg | Lognormal |
| 0.9 meter (3 feet) bgs | 189 mg/kg | 211 mg/kg | Normal |
| 1.5 meters (5 feet) bgs | 203 mg/kg | 225 mg/kg | Normal |

D.1.3 Correlation of Total and Soluble Lead

Total and corresponding soluble (WET) lead concentrations are bivariate data with a linear structure. This linear structure should allow for the prediction of soluble lead (WET) concentrations based on the UCLs calculated in above in Section D.1.2.

To estimate the degree of interrelation between total and corresponding soluble (WET) lead values (x and y , respectively), the *correlation coefficient* [r] is used (see Davis pg. 40). The correlation coefficient is a ratio that ranges from +1 to -1. A *correlation coefficient* of +1 indicates a perfect direct relationship between two variables; a *correlation coefficient* of -1 indicates that one variable changes inversely with relation to the other. Between the two extremes is a spectrum of less-than-perfect relationships, including zero, which indicates the lack of any sort of linear relationship at all.

The *correlation coefficient* was calculated for 71 (x, y) data points and equaled 0.85. Note that two outliers (550, 0.95) and (550, 0.7) were omitted from the regression analysis. According the Department headquarters, a *correlation coefficient* greater than or equal to 0.8 is adequate evidence that an acceptable correlation exists. Consequently, since the *correlation coefficient* for the total and soluble lead data for the subject site is equal to 0.85, an acceptable correlation exists.

Since an acceptable correlation exists, it is possible to compute the line of dependence, or a best-fit line between the two variables (i.e., total and soluble lead [WET] concentrations). Following methods outlined in Davis (pg. 180), a least squares method was used to find the equation of a best-fit line (regression line) by forcing the y-intercept (b) equal to zero since that is a known data point. The equation of the regression line is $y = 0.0467(x)$.

This equation was used to estimate the expected soluble lead (WET) concentration for each representative total lead concentration using the UCLs calculated in Section D.1.2. Regression analysis results and a scatter plot depicting (x, y) data points along with the regression lines are included as a portion of Appendix D. In addition, the expected soluble lead concentrations are shown next to the UCLs in Table D1.

**TABLE D1
LEAD STATISTICS
SFOBB EAST SPAN ON YERBA BUENA ISLAND IN SAN FRANCISCO COUNTY**

90% and 95% UCLs for a Lognormal Distribution and Their Predicted Soluble (WET) Lead Concentrations

| Depth (feet bgs) | 90% UCL* (mg/kg) | Predicted Soluble Lead (mg/l) | 95% UCL** (mg/kg) | Predicted Soluble Lead (mg/l) |
|-----------------------------|-----------------------------|--|------------------------------|--|
| 0 | 453 | 0 | 513 | 0 |
| 1 | 143 | 0.0 | 160 | 0.0 |
| 2 | 69 | 0.0 | 78 | 0.0 |
| 3 | 95 | 0.0 | 113 | 0.0 |
| 5 | 91 | 0.0 | 111 | 0.0 |

Notes:

* = 90% UCL applicable for land disposal characterization

** = 95% UCL applicable for risk based assessment

bgs = below the ground surface

mg/kg = milligrams per kilogram

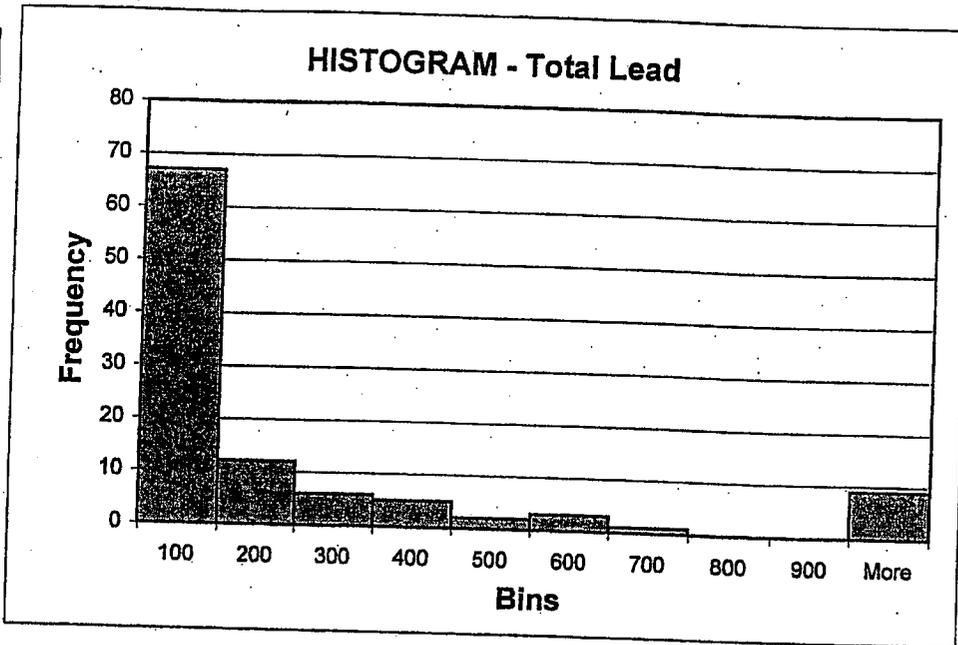
mg/l = milligrams per liter

Soluble lead concentrations were predicted using the equation of the regression line ($y = 0.0467x$).

**TOTAL LEAD DISTRIBUTION
YBI - SURFACE SAMPLES**

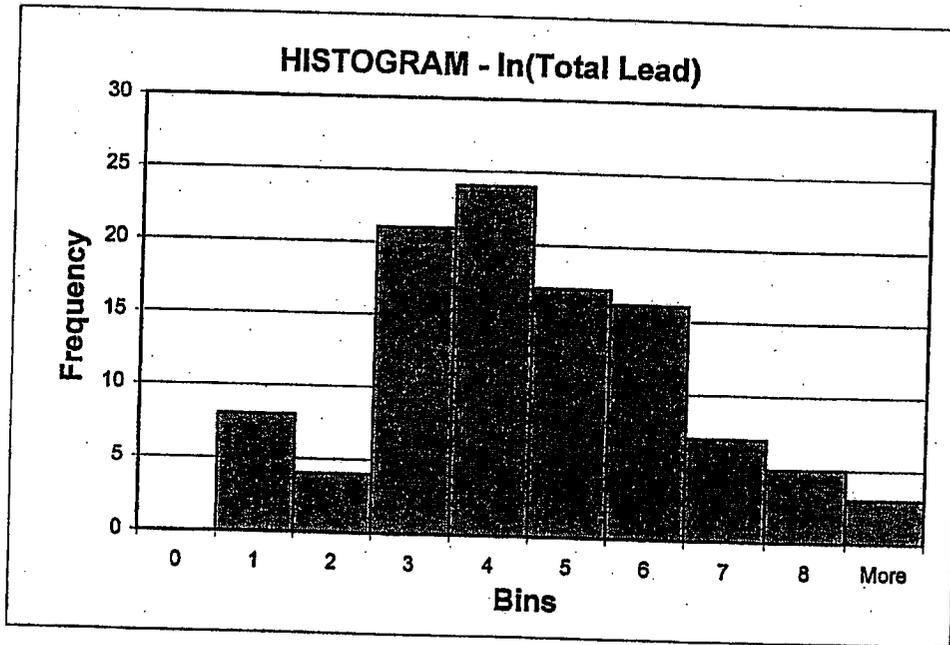
Total Lead

| bins | frequency |
|------|-----------|
| 100 | 67 |
| 200 | 12 |
| 300 | 6 |
| 400 | 5 |
| 500 | 2 |
| 600 | 3 |
| 700 | 1 |
| 800 | 0 |
| 900 | 0 |
| More | 9 |



ln(Total Lead)

| bins | frequency |
|------|-----------|
| 0 | 0 |
| 1 | 8 |
| 2 | 4 |
| 3 | 21 |
| 4 | 24 |
| 5 | 17 |
| 6 | 16 |
| 7 | 7 |
| 8 | 5 |
| More | 3 |



D'AGOSTINOS TEST FOR NON-TRANSFORMED TOTAL LEAD CONCENTRATIONS
Surface Samples - YBI

680/780 - NON TRANSFORMED

| <i>i</i> | (x) | Ordered (<i>x_i</i>) | (<i>i</i> -β) <i>x_i</i> | (<i>x_i</i> - <i>X_{mean}</i>) ² |
|----------|--------|----------------------------------|-------------------------------------|---|
| 1 | 94 | 2.5 | -128.75 | 81577.15229 |
| 2 | 7.0 | 2.5 | -126.25 | 81577.15229 |
| 3 | 7 | 2.5 | -123.75 | 81577.15229 |
| 4 | 63 | 2.5 | -121.25 | 81577.15229 |
| 5 | 20 | 2.5 | -118.75 | 81577.15229 |
| 6 | 44.0 | 2.5 | -116.25 | 81577.15229 |
| 7 | 20.0 | 2.5 | -113.75 | 81577.15229 |
| 8 | 1300.0 | 2.5 | -111.25 | 81577.15229 |
| 9 | 1300 | 4 | -174 | 80722.55087 |
| 10 | 19.0 | 6.6 | -280.5 | 79251.90172 |
| 11 | 600 | 7 | -290.5 | 79026.84801 |
| 12 | 60 | 7 | -283.5 | 79026.84801 |
| 13 | 17 | 8 | -316 | 78465.61372 |
| 14 | 200 | 8 | -308 | 78465.61372 |
| 15 | 340 | 8.3 | -311.25 | 78297.63344 |
| 16 | 33 | 8.4 | -306.6 | 78241.68001 |
| 17 | 33 | 10 | -355 | 77349.14515 |
| 18 | 280 | 10 | -345 | 77349.14515 |
| 19 | 980 | 11 | -368.5 | 76793.91087 |
| 20 | 200 | 12 | -390 | 76240.67658 |
| 21 | 2.5 | 14 | -441 | 75140.20801 |
| 22 | 370 | 15 | -457.5 | 74592.97372 |
| 23 | 8 | 15 | -442.5 | 74592.97372 |
| 24 | 4 | 15 | -427.5 | 74592.97372 |
| 25 | 340 | 16 | -440 | 74047.73944 |
| 26 | 30 | 16 | -424 | 74047.73944 |
| 27 | 42.0 | 17 | -433.5 | 73504.50515 |
| 28 | 280 | 18 | -441 | 72963.27087 |

680/780 - NON TRANSFORMED

| D'Agostino's Test | |
|--|----------|
| Normal Test | |
| <i>X_{mean}</i> | 288.1 |
| <i>n</i> | 105 |
| <i>s</i> | 675.4397 |
| <i>D</i> | 0.168876 |
| <i>Y</i> | -38.69 |
| <i>β</i> | 52.5 |
| SUM [(<i>i</i> -α) <i>x_i</i>] | 1257573 |
| SUM [(<i>x_i</i> - <i>X_{mean}</i>) ²] | 47902966 |

let $\alpha = 0.02$ -- for $n = 105$

$Y_{0.01} = -3.15$

$Y_{0.99} = 1.47$

Distribution is not normal since
 $-38.69 < -3.15$

D'AGOSTINOS TEST FOR TRANSFORMED TOTAL LEAD CONCENTRATIONS
Surface Samples - YBI

680/780 - LN TRANSFORMED

| <i>I</i> | (<i>x</i>) | Ordered (<i>x_i</i>) | (<i>i</i> -β) <i>x_i</i> | (<i>x_i</i> - <i>X_{mean}</i>) ² |
|----------|--------------|----------------------------------|-------------------------------------|---|
| 1 | 4.543295 | 0.916290732 | -47.647118 | 10.05527193 |
| 2 | 1.94591 | 0.916290732 | -46.730827 | 10.05527193 |
| 3 | 1.94591 | 0.916290732 | -45.814537 | 10.05527193 |
| 4 | 4.143135 | 0.916290732 | -44.898246 | 10.05527193 |
| 5 | 2.995732 | 0.916290732 | -43.981955 | 10.05527193 |
| 6 | 3.78419 | 0.916290732 | -43.065664 | 10.05527193 |
| 7 | 2.995732 | 0.916290732 | -42.149374 | 10.05527193 |
| 8 | 7.17012 | 0.916290732 | -41.233083 | 10.05527193 |
| 9 | 7.17012 | 1.386294361 | -60.996952 | 7.295407743 |
| 10 | 2.944439 | 1.887069649 | -81.143995 | 4.840994276 |
| 11 | 6.39693 | 1.945910149 | -81.728226 | 4.585531689 |
| 12 | 4.094345 | 1.945910149 | -79.782316 | 4.585531689 |
| 13 | 2.833213 | 2.079441542 | -83.177662 | 4.031477957 |
| 14 | 5.298317 | 2.079441542 | -81.09822 | 4.031477957 |
| 15 | 5.828946 | 2.116255515 | -80.41771 | 3.884999054 |
| 16 | 3.496508 | 2.128231706 | -78.744573 | 3.837931378 |
| 17 | 3.496508 | 2.302585093 | -82.893063 | 3.185191627 |
| 18 | 5.63479 | 2.302585093 | -80.590478 | 3.185191627 |
| 19 | 6.887553 | 2.397895273 | -81.528439 | 2.854073497 |
| 20 | 5.298317 | 2.48490665 | -82.001919 | 2.567650378 |
| 21 | 0.916291 | 2.63905733 | -84.449835 | 2.097394115 |
| 22 | 5.913503 | 2.708050201 | -83.949556 | 1.902317896 |
| 23 | 2.079442 | 2.708050201 | -81.241506 | 1.902317896 |
| 24 | 1.386294 | 2.708050201 | -78.533456 | 1.902317896 |
| 25 | 5.828946 | 2.772588722 | -77.632484 | 1.728454199 |
| 26 | 3.401197 | 2.772588722 | -74.859896 | 1.728454199 |
| 27 | 3.73767 | 2.833213344 | -73.663547 | 1.572722328 |
| 28 | 5.63479 | 2.890371758 | -72.259294 | 1.432626706 |
| 29 | 0.916291 | 2.890371758 | -69.368922 | 1.432626706 |

680/780 - LN TRANSFORMED

| D'Agostino's Test | |
|--|----------|
| Lognormal Test | |
| <i>X_{mean}</i> | 4.1 |
| <i>n</i> | 105 |
| <i>s</i> | 1.7927 |
| <i>D</i> | 0.28348 |
| <i>Y</i> | |
| <i>β</i> | 53 |
| SUM [(<i>i</i> -α) <i>x_i</i>] | 5602.749 |
| SUM [(<i>x_i</i> - <i>X_{mean}</i>) ²] | 337.4335 |

let $\alpha = 0.02$ - for $n = 105$

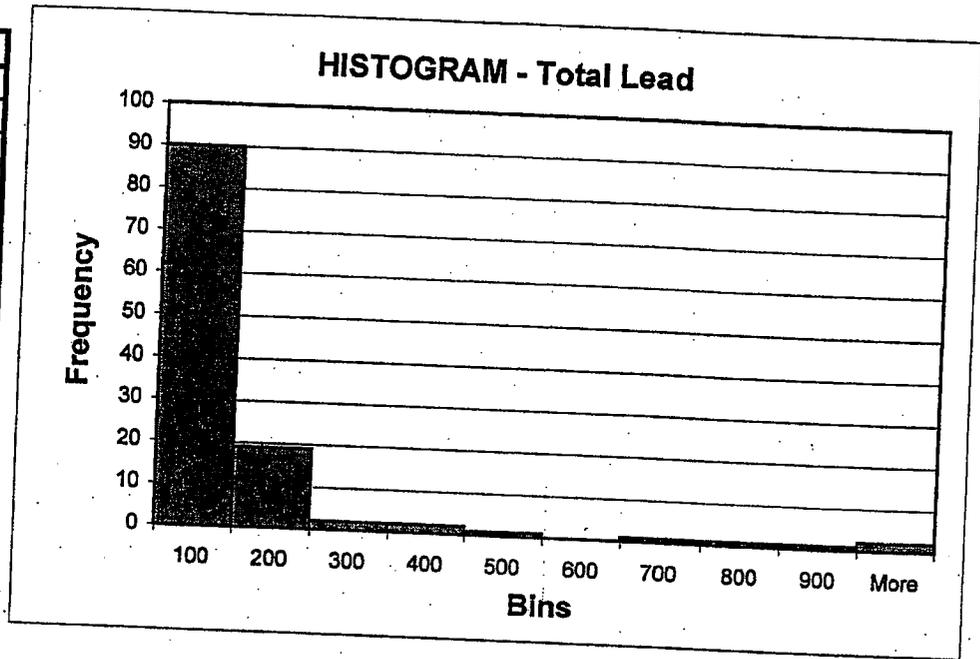
$Y_{0.01} = -3.15$

$Y_{0.99} = 1.47$

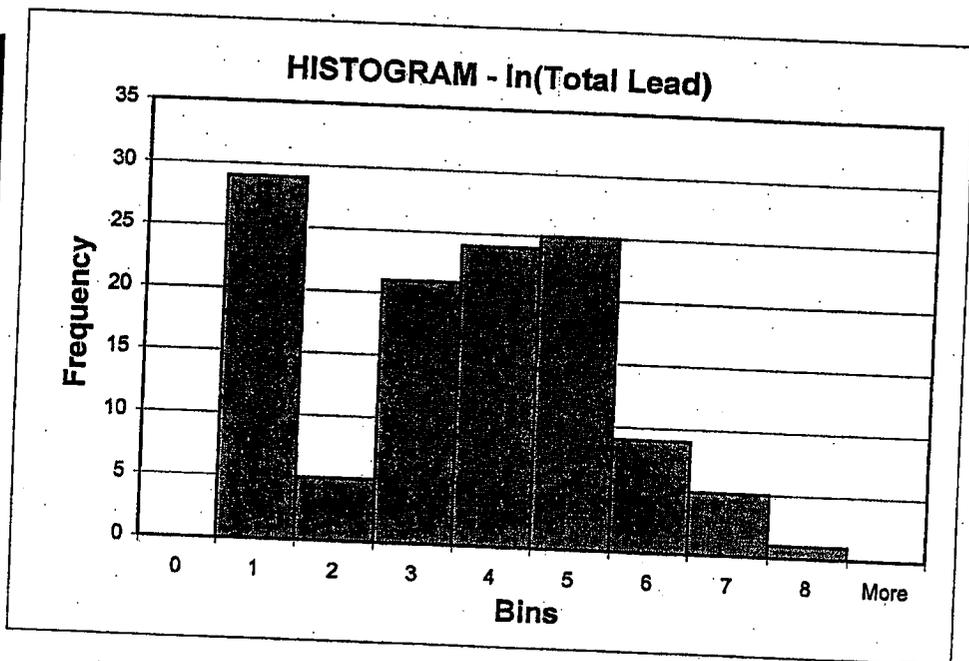
Distribution may be lognormal since
 $-3.15 < 0.4735 < 1.47$

**TOTAL LEAD DISTRIBUTION
YBI - 1 FOOT SAMPLES**

| Total Lead | |
|------------|-----------|
| bins | frequency |
| 100 | 90 |
| 200 | 19 |
| 300 | 2 |
| 400 | 2 |
| 500 | 1 |
| 600 | 0 |
| 700 | 1 |
| 800 | 1 |
| 900 | 1 |
| More | 2 |



| ln(Total Lead) | |
|----------------|-----------|
| bins | frequency |
| 0 | 0 |
| 1 | 29 |
| 2 | 5 |
| 3 | 21 |
| 4 | 24 |
| 5 | 25 |
| 6 | 9 |
| 7 | 5 |
| 8 | 1 |
| More | 0 |



D'AGOSTINOS TEST FOR NON-TRANSFORMED TOTAL LEAD CONCENTRATIONS
1 foot Samples - YBI

680/780 - NON TRANSFORMED

| <i>i</i> | (x) | Ordered (x_i) | $(i-\beta)x_i$ | $(x_i - X_{\text{mean}})^2$ |
|----------|-------|-------------------|----------------|-----------------------------|
| 1 | 24 | 2.5 | -146.25 | 8583.3218 |
| 2 | 6.5 | 2.5 | -143.75 | 8583.3218 |
| 3 | 50 | 2.5 | -141.25 | 8583.3218 |
| 4 | 57 | 2.5 | -138.75 | 8583.3218 |
| 5 | 18 | 2.5 | -136.25 | 8583.3218 |
| 6 | 2.5 | 2.5 | -133.75 | 8583.3218 |
| 7 | 110.0 | 2.5 | -131.25 | 8583.3218 |
| 8 | 2.5 | 2.5 | -128.75 | 8583.3218 |
| 9 | 7 | 2.5 | -126.25 | 8583.3218 |
| 10 | 37.0 | 2.5 | -123.75 | 8583.3218 |
| 11 | 44 | 2.5 | -121.25 | 8583.3218 |
| 12 | 3 | 2.5 | -118.75 | 8583.3218 |
| 13 | 2.5 | 2.5 | -116.25 | 8583.3218 |
| 14 | 2.5 | 2.5 | -113.75 | 8583.3218 |
| 15 | 760 | 2.5 | -111.25 | 8583.3218 |
| 16 | 1800 | 2.5 | -108.75 | 8583.3218 |
| 17 | 18 | 2.5 | -106.25 | 8583.3218 |
| 18 | 2.5 | 2.5 | -103.75 | 8583.3218 |
| 19 | 270 | 2.5 | -101.25 | 8583.3218 |
| 20 | 12 | 2.5 | -98.75 | 8583.3218 |
| 21 | 6.7 | 2.5 | -96.25 | 8583.3218 |
| 22 | 12 | 2.5 | -93.75 | 8583.3218 |
| 23 | 2.5 | 2.5 | -91.25 | 8583.3218 |
| 24 | 56 | 2.5 | -88.75 | 8583.3218 |
| 25 | 8 | 2.5 | -86.25 | 8583.3218 |
| 26 | 21 | 2.5 | -83.75 | 8583.3218 |
| 27 | 140.0 | 2.5 | -81.25 | 8583.3218 |
| 28 | 200 | 2.5 | -78.75 | 8583.3218 |

680/780 - NON TRANSFORMED

| D'Agostino's Test | |
|-----------------------------------|----------|
| Normal Test | |
| X_{mean} | 95.1 |
| n | 119 |
| s | 223.5492 |
| D | 0.161684 |
| Y | -43.80 |
| β | 59.5 |
| SUM $[(i-\alpha)x_i]$ | 511838.4 |
| SUM $[(x_i - X_{\text{mean}})^2]$ | 5946935 |

let $\alpha = 0.02$ - for $n = 119$

$Y_{0.01}$ approx. = -3.15

$Y_{0.99}$ approx. = 1.47

Distribution is not normal since
 $-43.80 < -3.15$

D'AGOSTINOS TEST FOR TRANSFORMED TOTAL LEAD CONCENTRATIONS
1 foot Samples - YBI

680/780 - LN TRANSFORMED

| <i>i</i> | (x) | Ordered (x_i) | $(i-\beta)x_i$ | $(x_i - X_{\text{mean}})^2$ |
|----------|----------|-------------------|----------------|-----------------------------|
| 1 | 3.178054 | 0.916290732 | -54.061153 | 4.99348713 |
| 2 | 1.871802 | 0.916290732 | -53.144862 | 4.99348713 |
| 3 | 3.912023 | 0.916290732 | -52.228572 | 4.99348713 |
| 4 | 4.043051 | 0.916290732 | -51.312281 | 4.99348713 |
| 5 | 2.890372 | 0.916290732 | -50.39599 | 4.99348713 |
| 6 | 0.916291 | 0.916290732 | -49.4797 | 4.99348713 |
| 7 | 4.70048 | 0.916290732 | -48.563409 | 4.99348713 |
| 8 | 0.916291 | 0.916290732 | -47.647118 | 4.99348713 |
| 9 | 1.94591 | 0.916290732 | -46.730827 | 4.99348713 |
| 10 | 3.610918 | 0.916290732 | -45.814537 | 4.99348713 |
| 11 | 3.78419 | 0.916290732 | -44.898246 | 4.99348713 |
| 12 | 0.916291 | 0.916290732 | -43.981955 | 4.99348713 |
| 13 | 0.916291 | 0.916290732 | -43.065664 | 4.99348713 |
| 14 | 0.916291 | 0.916290732 | -42.149374 | 4.99348713 |
| 15 | 6.633318 | 0.916290732 | -41.233083 | 4.99348713 |
| 16 | 7.495542 | 0.916290732 | -40.316792 | 4.99348713 |
| 17 | 2.890372 | 0.916290732 | -39.400501 | 4.99348713 |
| 18 | 0.916291 | 0.916290732 | -38.484211 | 4.99348713 |
| 19 | 5.598422 | 0.916290732 | -37.56792 | 4.99348713 |
| 20 | 2.484907 | 0.916290732 | -36.651629 | 4.99348713 |
| 21 | 1.902108 | 0.916290732 | -35.735339 | 4.99348713 |
| 22 | 2.484907 | 0.916290732 | -34.819048 | 4.99348713 |
| 23 | 0.916291 | 0.916290732 | -33.902757 | 4.99348713 |
| 24 | 4.025352 | 0.916290732 | -32.986466 | 4.99348713 |
| 25 | 2.079442 | 0.916290732 | -32.070176 | 4.99348713 |
| 26 | 3.044522 | 0.916290732 | -31.153885 | 4.99348713 |
| 27 | 4.941642 | 0.916290732 | -30.237594 | 4.99348713 |
| 28 | 5.298317 | 0.916290732 | -29.321303 | 4.99348713 |
| 29 | 0.916291 | 0.916290732 | -28.405013 | 4.99348713 |

680/780 - LN TRANSFORMED

| D'Agostino's Test | |
|-----------------------------------|----------|
| Lognormal Test | |
| X_{mean} | 3.2 |
| n | 119 |
| s | 1.7017 |
| D | 0.283764 |
| Y | 0.607 |
| β | 60 |
| SUM $[(i-\alpha)x_i]$ | 6838.142 |
| SUM $[(x_i - X_{\text{mean}})^2]$ | 344.604 |

let $\alpha = 0.02$ - for $n = 119$

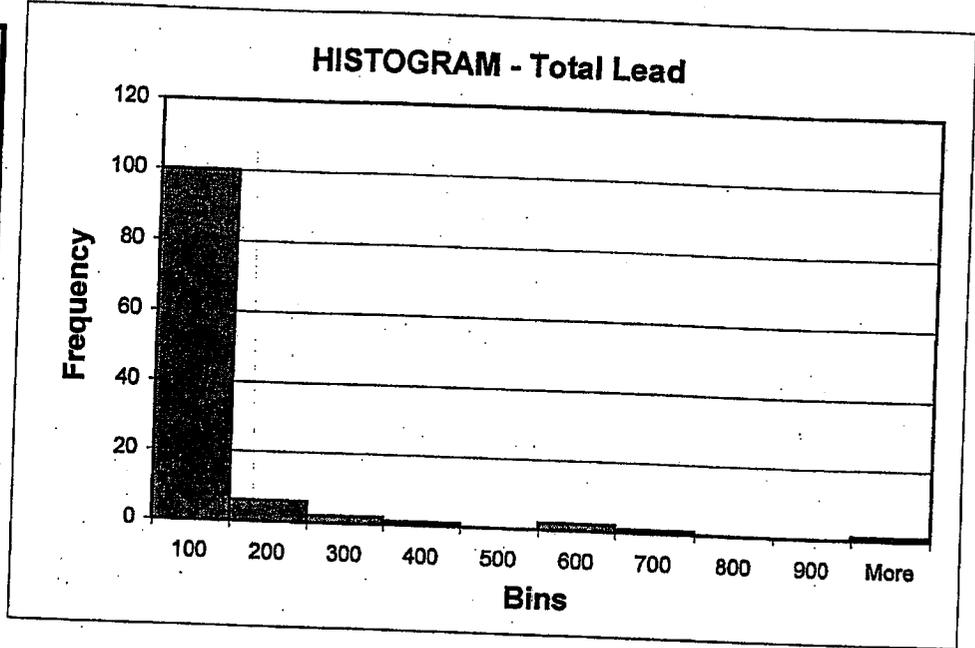
$Y_{0.01}$ approx. = -3.15

$Y_{0.99}$ approx. = 1.47

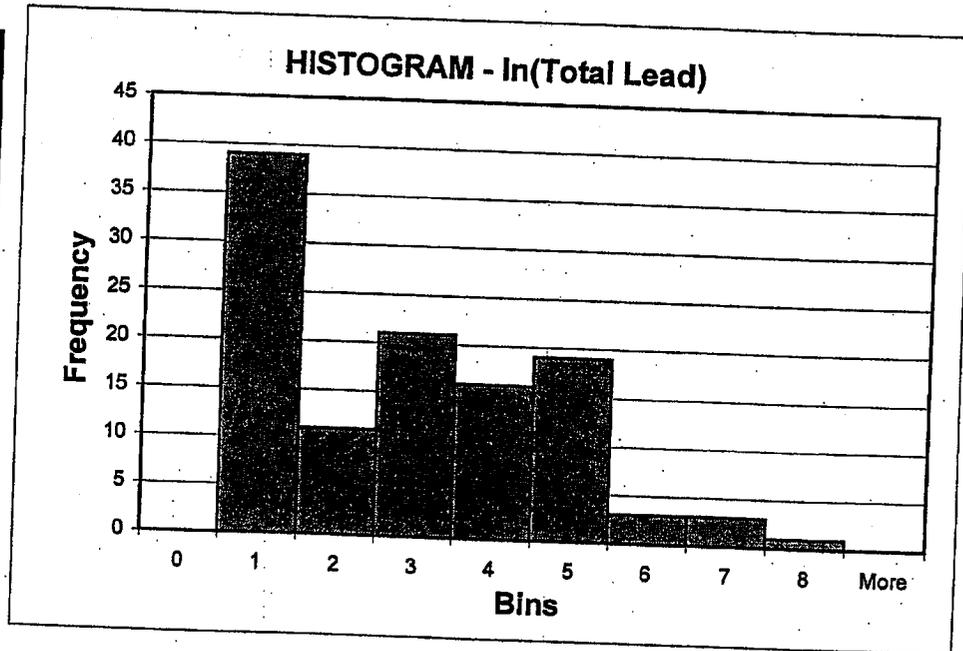
Distribution may be lognormal since
 $-3.15 < 0.607 < 1.47$

**TOTAL LEAD DISTRIBUTION
YBI - 2 FOOT SAMPLES**

| Total Lead | |
|------------|-----------|
| bins | frequency |
| 100 | 100 |
| 200 | 6 |
| 300 | 2 |
| 400 | 1 |
| 500 | 0 |
| 600 | 2 |
| 700 | 1 |
| 800 | 0 |
| 900 | 0 |
| More | 1 |



| ln(Total Lead) | |
|----------------|-----------|
| bins | frequency |
| 0 | 0 |
| 1 | 39 |
| 2 | 11 |
| 3 | 21 |
| 4 | 16 |
| 5 | 19 |
| 6 | 3 |
| 7 | 3 |
| 8 | 1 |
| More | 0 |



D'AGOSTINOS TEST FOR NON-TRANSFORMED TOTAL LEAD CONCENTRATIONS
2 foot Samples - YBI

NON TRANSFORMED

| <i>i</i> | (<i>x</i>) | Ordered (<i>x_i</i>) | (<i>i</i> -β) <i>x_i</i> | (<i>x_i</i> - <i>X_{mean}</i>) ² |
|----------|--------------|----------------------------------|-------------------------------------|---|
| 1 | 7 | 1.5 | -83.25 | 3635.983275 |
| 2 | 5.0 | 2 | -109 | 3575.93416 |
| 3 | 3 | 2.5 | -133.75 | 3516.385045 |
| 4 | 21 | 2.5 | -131.25 | 3516.385045 |
| 5 | 10 | 2.5 | -128.75 | 3516.385045 |
| 6 | 2.5 | 2.5 | -126.25 | 3516.385045 |
| 7 | 2.5 | 2.5 | -123.75 | 3516.385045 |
| 8 | 26.0 | 2.5 | -121.25 | 3516.385045 |
| 9 | 3 | 2.5 | -118.75 | 3516.385045 |
| 10 | 2.5 | 2.5 | -116.25 | 3516.385045 |
| 11 | 20 | 2.5 | -113.75 | 3516.385045 |
| 12 | 3 | 2.5 | -111.25 | 3516.385045 |
| 13 | 51 | 2.5 | -108.75 | 3516.385045 |
| 14 | 30 | 2.5 | -106.25 | 3516.385045 |
| 15 | 2.5 | 2.5 | -103.75 | 3516.385045 |
| 16 | 2.5 | 2.5 | -101.25 | 3516.385045 |
| 17 | 2.5 | 2.5 | -98.75 | 3516.385045 |
| 18 | 52 | 2.5 | -96.25 | 3516.385045 |
| 19 | 6 | 2.5 | -93.75 | 3516.385045 |
| 20 | 9.5 | 2.5 | -91.25 | 3516.385045 |
| 21 | 8.5 | 2.5 | -88.75 | 3516.385045 |
| 22 | 44 | 2.5 | -86.25 | 3516.385045 |
| 23 | 55 | 2.5 | -83.75 | 3516.385045 |
| 24 | 68 | 2.5 | -81.25 | 3516.385045 |
| 25 | 2.5 | 2.5 | -78.75 | 3516.385045 |
| 26 | 2.5 | 2.5 | -76.25 | 3516.385045 |
| 27 | 14.0 | 2.5 | -73.75 | 3516.385045 |
| 28 | 81 | 2.5 | -71.25 | 3516.385045 |

NON TRANSFORMED

| D'Agostino's Test | |
|--|---------------|
| Normal Test | |
| <i>X_{mean}</i> | 61.8 |
| <i>n</i> | 113 |
| <i>s</i> | 192.6156 |
| <i>D</i> | 0.129317 |
| Y | -54.16 |
| <i>β</i> | 56.5 |
| SUM [(<i>i</i> -α) <i>x_i</i>] | 318056.9 |
| SUM [(<i>x_i</i> - <i>X_{mean}</i>) ²] | 4192386 |

let α = 0.02 – for n = 119

*Y*_{0.01} approx. = -3.15

*Y*_{0.99} approx. = 1.47

Distribution is not normal since
-54.16 < -3.15

D'AGOSTINOS TEST FOR TRANSFORMED TOTAL LEAD CONCENTRATIONS
2 foot Samples - YBI

LN TRANSFORMED

| <i>i</i> | (x) | Ordered (x _i) | (i-β)x _i | (x _i -X _{mean}) ² |
|----------|----------|---------------------------|---------------------|---|
| 1 | 1.94591 | 0.405465108 | -22.706046 | 4.670317972 |
| 2 | 1.609438 | 0.693147181 | -38.123095 | 3.509664184 |
| 3 | 0.916291 | 0.916290732 | -49.4797 | 2.723378608 |
| 4 | 3.044522 | 0.916290732 | -48.563409 | 2.723378608 |
| 5 | 2.302585 | 0.916290732 | -47.647118 | 2.723378608 |
| 6 | 0.916291 | 0.916290732 | -46.730827 | 2.723378608 |
| 7 | 0.916291 | 0.916290732 | -45.814537 | 2.723378608 |
| 8 | 3.258097 | 0.916290732 | -44.898246 | 2.723378608 |
| 9 | 1.098612 | 0.916290732 | -43.981955 | 2.723378608 |
| 10 | 0.916291 | 0.916290732 | -43.065664 | 2.723378608 |
| 11 | 2.995732 | 0.916290732 | -42.149374 | 2.723378608 |
| 12 | 0.916291 | 0.916290732 | -41.233083 | 2.723378608 |
| 13 | 3.931826 | 0.916290732 | -40.316792 | 2.723378608 |
| 14 | 3.401197 | 0.916290732 | -39.400501 | 2.723378608 |
| 15 | 0.916291 | 0.916290732 | -38.484211 | 2.723378608 |
| 16 | 0.916291 | 0.916290732 | -37.56792 | 2.723378608 |
| 17 | 0.916291 | 0.916290732 | -36.651629 | 2.723378608 |
| 18 | 3.951244 | 0.916290732 | -35.735339 | 2.723378608 |
| 19 | 1.791759 | 0.916290732 | -34.819048 | 2.723378608 |
| 20 | 2.251292 | 0.916290732 | -33.902757 | 2.723378608 |
| 21 | 2.140066 | 0.916290732 | -32.986466 | 2.723378608 |
| 22 | 3.78419 | 0.916290732 | -32.070176 | 2.723378608 |
| 23 | 4.007333 | 0.916290732 | -31.153885 | 2.723378608 |
| 24 | 4.219508 | 0.916290732 | -30.237594 | 2.723378608 |
| 25 | 0.916291 | 0.916290732 | -29.321303 | 2.723378608 |
| 26 | 0.916291 | 0.916290732 | -28.405013 | 2.723378608 |
| 27 | 2.639057 | 0.916290732 | -27.488722 | 2.723378608 |
| 28 | 4.394449 | 0.916290732 | -26.572431 | 2.723378608 |
| 29 | 4.787492 | 0.916290732 | -25.65614 | 2.723378608 |

LN TRANSFORMED

| D'Agostino's Test | |
|--|----------|
| Lognormal Test | |
| X _{mean} | 2.6 |
| n | 113 |
| s | 1.6281 |
| D | 0.276731 |
| Y | |
| β | 57 |
| SUM [(i-α)x _i] | 5753.018 |
| SUM [(x _i -X _{mean}) ²] | 299.5296 |

let α = 0.02 – for n = 113

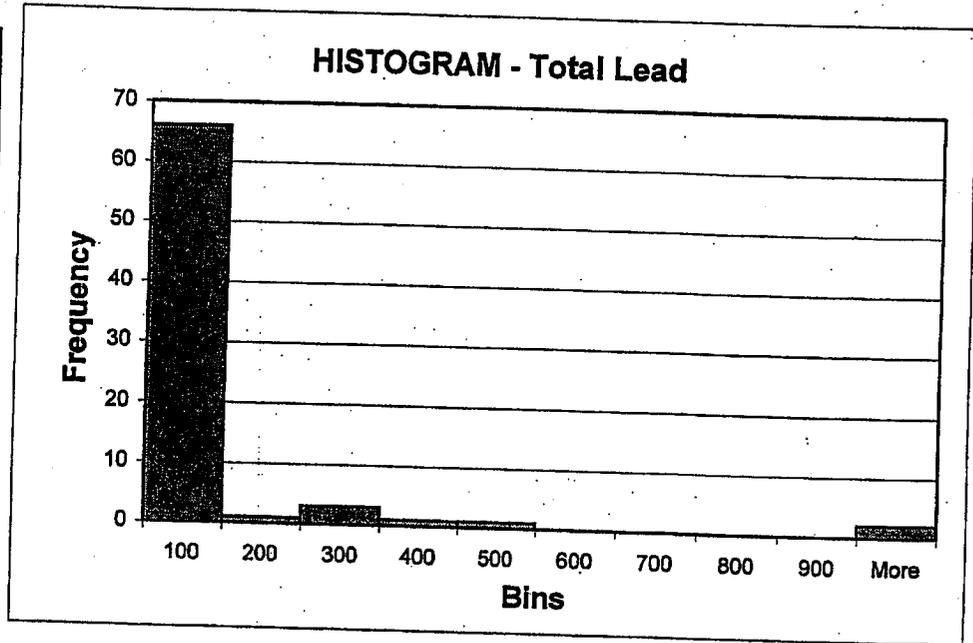
Y_{0.01} approx. = -3.15

Y_{0.99} approx. = 1.47

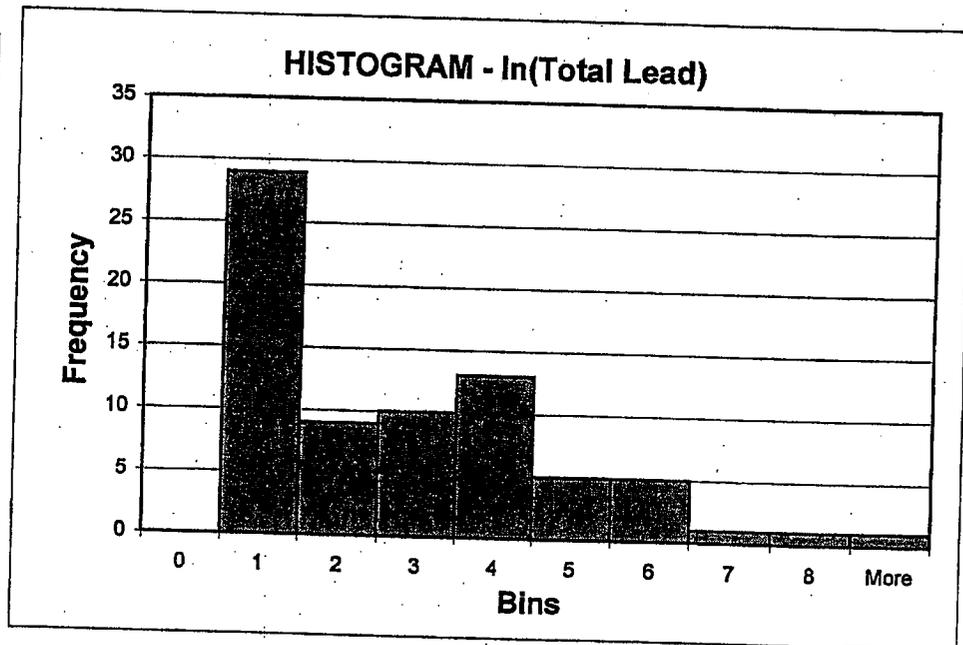
Distribution may be lognormal since
-3.15 < -1.90 < 1.47

**TOTAL LEAD DISTRIBUTION
YBI - 3 FOOT SAMPLES**

| Total Lead | |
|------------|-----------|
| bins | frequency |
| 100 | 66 |
| 200 | 1 |
| 300 | 3 |
| 400 | 1 |
| 500 | 1 |
| 600 | 0 |
| 700 | 0 |
| 800 | 0 |
| 900 | 0 |
| More | 2 |



| ln(Total Lead) | |
|----------------|-----------|
| bins | frequency |
| 0 | 0 |
| 1 | 29 |
| 2 | 9 |
| 3 | 10 |
| 4 | 13 |
| 5 | 5 |
| 6 | 5 |
| 7 | 1 |
| 8 | 1 |
| More | 1 |



D'AGOSTINOS TEST FOR NON-TRANSFORMED TOTAL LEAD CONCENTRATIONS
3 foot Samples - YBI

NON TRANSFORMED

| <i>i</i> | (x) | Ordered (x_i) | $(i-\beta)x_i$ | $(x_i - X_{\text{mean}})^2$ |
|----------|------|-------------------|----------------|-----------------------------|
| 1 | 1.5 | 1.5 | -54 | 12467.23133 |
| 2 | 2.5 | 2.0 | -70 | 12355.82457 |
| 3 | 32 | 2.0 | -68 | 12355.82457 |
| 4 | 4 | 2.0 | -66 | 12355.82457 |
| 5 | 3 | 2.0 | -64 | 12355.82457 |
| 6 | 2.5 | 2.0 | -62 | 12355.82457 |
| 7 | 2.0 | 2.0 | -60 | 12355.82457 |
| 8 | 27.0 | 2.5 | -72.5 | 12244.91782 |
| 9 | 26 | 2.5 | -70 | 12244.91782 |
| 10 | 22.0 | 2.5 | -67.5 | 12244.91782 |
| 11 | 26 | 2.5 | -65 | 12244.91782 |
| 12 | 3 | 2.5 | -62.5 | 12244.91782 |
| 13 | 2.5 | 2.5 | -60 | 12244.91782 |
| 14 | 2.5 | 2.5 | -57.5 | 12244.91782 |
| 15 | 2.5 | 2.5 | -55 | 12244.91782 |
| 16 | 2.5 | 2.5 | -52.5 | 12244.91782 |
| 17 | 2.5 | 2.5 | -50 | 12244.91782 |
| 18 | 2 | 2.5 | -47.5 | 12244.91782 |
| 19 | 2.5 | 2.5 | -45 | 12244.91782 |
| 20 | 2.5 | 2.5 | -42.5 | 12244.91782 |
| 21 | 2.5 | 2.5 | -40 | 12244.91782 |
| 22 | 61 | 2.5 | -37.5 | 12244.91782 |
| 23 | 44 | 2.5 | -35 | 12244.91782 |
| 24 | 47 | 2.5 | -32.5 | 12244.91782 |
| 25 | 3.5 | 2.5 | -30 | 12244.91782 |
| 26 | 8.7 | 2.5 | -27.5 | 12244.91782 |
| 27 | 35.0 | 2.5 | -25 | 12244.91782 |
| 28 | 2 | 2.5 | -22.5 | 12244.91782 |

NON TRANSFORMED

| D'Agostino's Test | |
|-----------------------------------|----------|
| Normal Test | |
| X_{mean} | 113.2 |
| n | 74 |
| s | 502.1438 |
| D | 0.10165 |
| Y | 51.77 |
| β | 37 |
| SUM $[(i-\alpha)x_i]$ | 279511.9 |
| SUM $[(x_i - X_{\text{mean}})^2]$ | 18658978 |

let $\alpha = 0.02$ - for $n = 74$

$Y_{0.01}$ approx. = -3.29

$Y_{0.99}$ approx. = 1.31

Distribution is not normal since
 $-51.77 < -3.29$

D'AGOSTINOS TEST FOR TRANSFORMED TOTAL LEAD CONCENTRATIONS
3 foot Samples - YBI

LN TRANSFORMED

| <i>i</i> | (x) | Ordered (x _i) | (i-β)x _i | (x _i -X _{mean}) ² |
|----------|----------|---------------------------|---------------------|---|
| 1 | 0.405465 | 0.405465108 | -14.799476 | 4.168475229 |
| 2 | 0.916291 | 0.693147181 | -24.606725 | 3.076524199 |
| 3 | 3.465736 | 0.693147181 | -23.913578 | 3.076524199 |
| 4 | 1.252763 | 0.693147181 | -23.220431 | 3.076524199 |
| 5 | 0.916291 | 0.693147181 | -22.527283 | 3.076524199 |
| 6 | 0.916291 | 0.693147181 | -21.834136 | 3.076524199 |
| 7 | 0.693147 | 0.693147181 | -21.140989 | 3.076524199 |
| 8 | 3.295837 | 0.916290732 | -27.030577 | 2.343528623 |
| 9 | 3.258097 | 0.916290732 | -26.114286 | 2.343528623 |
| 10 | 3.091042 | 0.916290732 | -25.197995 | 2.343528623 |
| 11 | 3.258097 | 0.916290732 | -24.281704 | 2.343528623 |
| 12 | 0.916291 | 0.916290732 | -23.365414 | 2.343528623 |
| 13 | 0.916291 | 0.916290732 | -22.449123 | 2.343528623 |
| 14 | 0.916291 | 0.916290732 | -21.532832 | 2.343528623 |
| 15 | 0.916291 | 0.916290732 | -20.616541 | 2.343528623 |
| 16 | 0.916291 | 0.916290732 | -19.700251 | 2.343528623 |
| 17 | 0.916291 | 0.916290732 | -18.78396 | 2.343528623 |
| 18 | 0.693147 | 0.916290732 | -17.867669 | 2.343528623 |
| 19 | 0.916291 | 0.916290732 | -16.951379 | 2.343528623 |
| 20 | 0.916291 | 0.916290732 | -16.035088 | 2.343528623 |
| 21 | 0.916291 | 0.916290732 | -15.118797 | 2.343528623 |
| 22 | 4.110874 | 0.916290732 | -14.202506 | 2.343528623 |
| 23 | 3.78419 | 0.916290732 | -13.286216 | 2.343528623 |
| 24 | 3.850148 | 0.916290732 | -12.369925 | 2.343528623 |
| 25 | 1.252763 | 0.916290732 | -11.453634 | 2.343528623 |
| 26 | 2.163323 | 0.916290732 | -10.537343 | 2.343528623 |
| 27 | 3.555348 | 0.916290732 | -9.6210527 | 2.343528623 |
| 28 | 0.693147 | 0.916290732 | -8.704762 | 2.343528623 |
| 29 | 0.916291 | 0.916290732 | -7.7884712 | 2.343528623 |

LN TRANSFORMED

| D'Agostino's Test | |
|--|----------|
| Lognormal Test | |
| X _{mean} | 2.4 |
| n | 74 |
| s | 1.7907 |
| D | 0.267907 |
| Y | 0.000000 |
| β | 37.5 |
| SUM [(i-α)x _i] | 2627.035 |
| SUM [(x _i -X _{mean}) ²] | 237.2831 |

let α = 0.02 – for n = 74

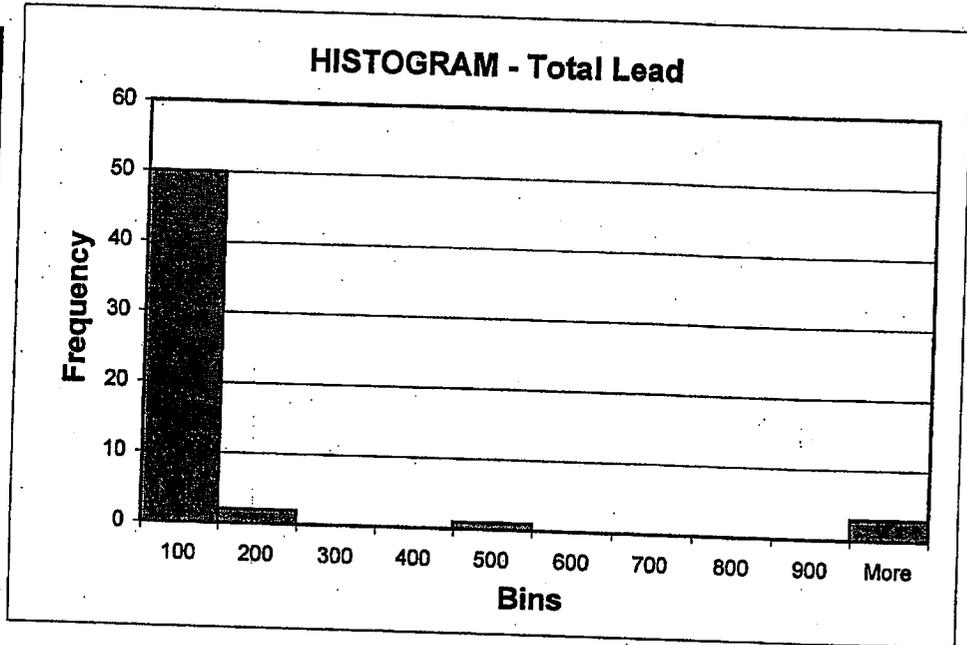
Y_{0.01} approx. = -3.29

Y_{0.99} approx. = 1.31

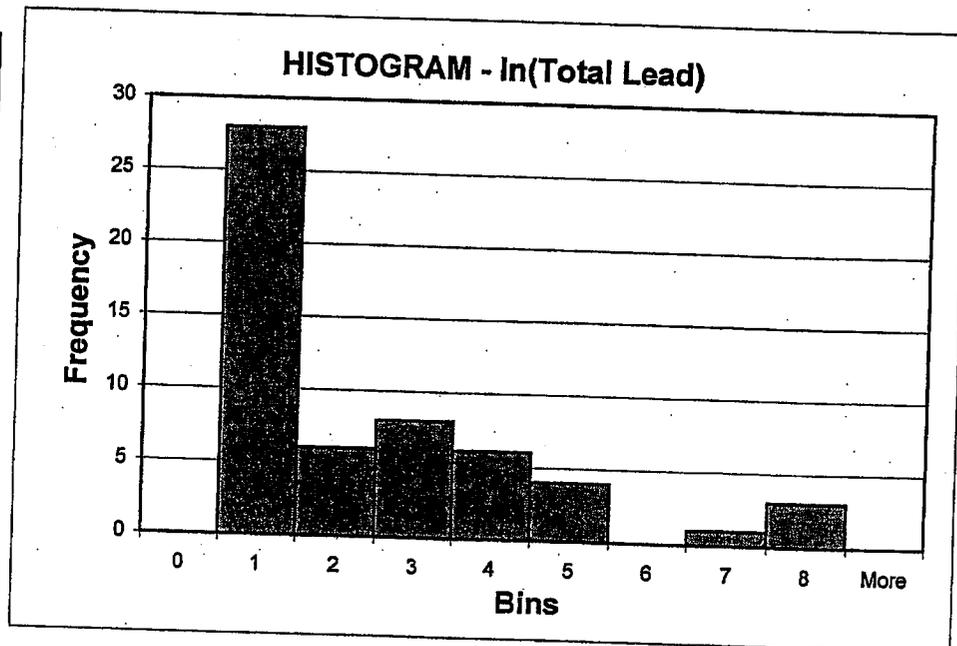
Distribution is not lognormal since
-4.07 < -3.29

**TOTAL LEAD DISTRIBUTION
YBI - 5 FOOT SAMPLES**

| Total Lead | |
|------------|-----------|
| bins | frequency |
| 100 | 50 |
| 200 | 2 |
| 300 | 0 |
| 400 | 0 |
| 500 | 1 |
| 600 | 0 |
| 700 | 0 |
| 800 | 0 |
| 900 | 0 |
| More | 3 |



| ln(Total Lead) | |
|----------------|-----------|
| bins | frequency |
| 0 | 0 |
| 1 | 28 |
| 2 | 6 |
| 3 | 8 |
| 4 | 6 |
| 5 | 4 |
| 6 | 0 |
| 7 | 1 |
| 8 | 3 |
| More | 0 |



D'AGOSTINOS TEST FOR TRANSFORMED TOTAL LEAD CONCENTRATIONS
5 foot Samples - YBI

LN TRANSFORMED

| <i>I</i> | (<i>x</i>) | Ordered (<i>x_i</i>) | (<i>i</i> -β) <i>x_i</i> | (<i>x_i</i> - <i>X_{mean}</i>) ² |
|----------|--------------|----------------------------------|-------------------------------------|---|
| 1 | 3.178054 | 0.405465108 | -11.15029 | 3.187429175 |
| 2 | 0.916291 | 0.405465108 | -10.744825 | 3.187429175 |
| 3 | 1.504077 | 0.693147181 | -17.675253 | 2.242971097 |
| 4 | 0.916291 | 0.693147181 | -16.982106 | 2.242971097 |
| 5 | 0.916291 | 0.916290732 | -21.532832 | 1.624379941 |
| 6 | 0.405465 | 0.916290732 | -20.616541 | 1.624379941 |
| 7 | 2.772589 | 0.916290732 | -19.700251 | 1.624379941 |
| 8 | 3.526361 | 0.916290732 | -18.78396 | 1.624379941 |
| 9 | 4.406719 | 0.916290732 | -17.867669 | 1.624379941 |
| 10 | 0.916291 | 0.916290732 | -16.951379 | 1.624379941 |
| 11 | 0.916291 | 0.916290732 | -16.035088 | 1.624379941 |
| 12 | 0.916291 | 0.916290732 | -15.118797 | 1.624379941 |
| 13 | 0.916291 | 0.916290732 | -14.202506 | 1.624379941 |
| 14 | 0.916291 | 0.916290732 | -13.286216 | 1.624379941 |
| 15 | 0.916291 | 0.916290732 | -12.369925 | 1.624379941 |
| 16 | 0.916291 | 0.916290732 | -11.453634 | 1.624379941 |
| 17 | 0.916291 | 0.916290732 | -10.537343 | 1.624379941 |
| 18 | 2.014903 | 0.916290732 | -9.6210527 | 1.624379941 |
| 19 | 1.960095 | 0.916290732 | -8.704762 | 1.624379941 |
| 20 | 1.808289 | 0.916290732 | -7.7884712 | 1.624379941 |
| 21 | 0.693147 | 0.916290732 | -6.8721805 | 1.624379941 |
| 22 | 0.916291 | 0.916290732 | -5.9558898 | 1.624379941 |
| 23 | 0.916291 | 0.916290732 | -5.039599 | 1.624379941 |
| 24 | 2.163323 | 0.916290732 | -4.1233083 | 1.624379941 |
| 25 | 0.916291 | 0.916290732 | -3.2070176 | 1.624379941 |
| 26 | 0.405465 | 0.916290732 | -2.2907268 | 1.624379941 |
| 27 | 0.916291 | 0.916290732 | -1.3744361 | 1.624379941 |
| 28 | 0.916291 | 0.916290732 | -0.4581454 | 1.624379941 |
| 29 | 0.916291 | 1.504077397 | 0.7520387 | 0.471591203 |

LN TRANSFORMED

| D'Agostino's Test | |
|--|----------|
| Lognormal Test | |
| <i>X_{mean}</i> | 2.2 |
| <i>n</i> | 56 |
| <i>s</i> | 1.8282 |
| <i>D</i> | 0.24901 |
| <i>Y</i> | |
| <i>β</i> | 28.5 |
| SUM [(<i>i</i> -α) <i>x_i</i>] | 1427.637 |
| SUM [(<i>x_i</i> - <i>X_{mean}</i>) ²] | 187.171 |

let α = 0.02 – for n = 56

*Y*_{0.01} approx. = -3.44

*Y*_{0.99} approx. = 1.14

Distribution is not lognormal since
-8.26 < -3.44